

SEQUENCE LISTING

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<120> Compositions and Methods for the Detection, Diagnosis
 and Therapy of Hematological Malignancies

<130> 014058-014402PC

<140> US 10/501,841

<141> 2004-07-14

<150> US 10/057,475

<151> 2002-01-22

<150> WO PCT/US03/02353

<151> 2003-01-22

<160> 124

<170> PatentIn Ver. 2.1

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 35             40             45

Asp Ser Ile Val Trp Thr Phe Asn Thr Thr Pro Leu Val Thr Ile Gln
 50             55             60

Pro Glu Gly Gly Thr Ile Ile Val Thr Gln Asn Arg Asn Arg Glu Arg
 65             70             75             80

Val Asp Phe Pro Asp Gly Gly Tyr Ser Leu Lys Leu Ser Lys Leu Lys
 85             90             95

Lys Asn Asp Ser Gly Ile Tyr Tyr Val Gly Ile Tyr Ser Ser Ser Leu
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 Ile Ile Ser Leu Ala Val Phe Val Leu Met Phe Leu Leu Arg Lys Ile
 65 70 75 80
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 Cys Arg Glu Met Ala Gly Ser Gly Thr Cys Gly Thr Val Val Ser Thr
 50 55 60
 Thr Asn Phe Ile Lys Ala Glu Tyr Lys Gly Arg Val Thr Leu Lys Gln
 65 70 75 80
 Tyr Pro Arg Lys Asn Leu Phe Leu Val Glu Val Thr Gln Leu Thr Glu
 85 90 95
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 Gly Lys Thr Gln Lys Val Thr Leu Asn Val His Ser Glu Tyr Glu Pro
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 Ser Trp Glu Glu Gln Pro Met Pro Glu Thr Pro Lys Trp Phe His Leu
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 His Ser Ser Pro Thr Thr Gln Ile Thr His Arg Pro Arg Val Ser Arg
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 Ala Ser Ser Val Ala Gly Asp Lys Pro Arg Thr Phe Leu Pro Ser Thr
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 Arg Ala Arg Gly Ala Asp Ala Ala Gly Thr Gly Glu Ala Pro Val Pro
 325 330 335
 Gly Pro Gly Ala Pro Leu Pro Pro Ala Pro Leu Gln Val Ser Glu Ser
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 Pro Trp Leu His Ala Pro Ser Leu Lys Thr Ser Cys Glu Tyr Val Ser
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 reading frame His tag fusion

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<212> PRT

<213> Artificial Sequence

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<223> Description of Artificial Sequence:Lyl452 open
reading frame His tag fusion

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      35              40              45

Leu Asp Ile Arg Leu Met Arg His Lys Ala Val Trp Ile Asn Pro Gln
      50              55              60

Asp Val Gln Gln Gln Pro Gln Asp Leu Gln Ser Gln Val Pro Ala Ala
      65              70              75              80

Gly Asn Ser Gly Thr His Phe Val Thr Asp Ala Ala Ser Pro Ser Gly
      85              90              95

Pro Ser Pro Ser Cys Leu Gly Asp Ser Leu Ala Glu Thr Thr Leu Ser
      100             105             110

Glu Asp Thr Thr Asp Ser Val Gly Ser Ala Ser Pro His Gly Ser Ser
      115             120             125

Glu Lys Ser Ser Ser Phe Ser Leu Ser Ser Thr Glu Val His Met Val
      130             135             140

Arg Pro Gly Tyr Ser His Arg Val Ser Leu Pro Thr Ser Pro Gly Ile
      145             150             155             160

Leu Ala Thr Ser Pro Tyr Pro Glu Thr Asp Ser Ala Phe Phe Glu Pro
      165             170             175

Ser His Leu Thr Ser Ala Ala Asp Glu Gly Ala Val Gln Val Ser Arg
      180             185             190

Arg Thr Ile Ser Ser Asn Ser Phe Ser Pro Glu Val Phe Val Leu Pro
      195             200             205

Val Asp Val Glu Lys Glu Asn Ala His Phe Tyr Val Ala Asp Met Ile
      210             215             220

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Val	Ser	Pro	Val	Thr	Glu	Thr	Arg	Thr	Tyr	His	Asp	Val	Lys	Glu	Ile	290	295	300	
Cys	Lys	Cys	Asp	Val	Asp	Glu	Phe	Val	Ile	Leu	Glu	Leu	Gly	Asp	Phe	305	310	315	320
Asn	Asp	Ile	Thr	Glu	Thr	Cys	Ser	Cys	Ser	Cys	Ser	Ser	Ser	Lys	Ser	325	330		335
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Ile	Lys	Phe	Lys	Ser	Arg	Ile	Arg	Gly	Thr	Glu	Asp	Trp	Ala	Pro	Pro	405	410		415
Arg	Phe	Gln	Ile	Ile	Phe	Asn	Ile	His	Pro	Pro	Leu	Lys	Arg	Asp	Leu	420	425		430
Val	Val	Ala	Ala	Gln	Asn	Phe	Phe	Cys	Ala	Gly	Cys	Gly	Thr	Pro	Val	435	440		445
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Leu	Ser	Ile	Gly	Gln	Ser	Leu	Tyr	Ala	Lys	Ala	Lys	Glu	Leu	Asp	Arg	515	520	525	
Val	Lys	Glu	Ile	Gln	Glu	Gln	Leu	Phe	His	Ile	Lys	Lys	Leu	Leu	Lys	530	535	540	

Thr Cys Arg Phe Ala Asn Ser Ala Leu Lys Glu Phe Glu Gln Val Pro
 545 550 555 560
 Gly His Leu Thr Asp Glu Leu His Leu Phe Ser Leu Glu Asp Leu Val
 565 570 575
 Arg Ile Lys Lys Gly Leu Leu Ala Pro Leu Leu Lys Asp Ile Leu Lys
 580 585 590
 Ala Ser Leu Ala His Val Ala Gly Cys Glu Leu Cys Gln Gly Lys Gly
 595 600 605
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 Thr Ala Thr Cys Arg Arg Cys Ser Ala Cys Arg Ala Cys Phe His Lys
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<212> PRT
<213> Homo sapiens

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Leu Asn Thr Asp His Pro Pro Cys Gln Leu Asp Ile Arg Leu Met Arg
 35             40             45

His Lys Ala Val Trp Ile Asn Pro Gln Asp Val Gln Gln Gln Pro Gln
 50             55             60

Asp Leu Gln Ser Gln Val Pro Ala Ala Gly Asn Ser Gly Thr His Phe
 65             70             75             80

Val Thr Asp Ala Ala Ser Pro Ser Gly Pro Ser Pro Ser Cys Leu Gly
 85             90             95

Asp Ser Leu Ala Glu Thr Thr Leu Ser Glu Asp Thr Thr Asp Ser Val
100             105             110

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<212> PRT
<213> Homo sapiens

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      20              25              30

Leu Asn Thr Asp His Pro Pro Cys Gln Leu Asp Ile Arg Leu Met Arg
      35              40              45

His Lys Ala Val Trp Ile Asn Pro Gln Asp Val Gln Gln Gln Pro Gln
      50              55              60

Asp Leu Gln Ser Gln Val Pro Ala Ala Gly Asn Ser Gly Thr His Phe
      65              70              75              80

Val Thr Asp Ala Ala Ser Pro Ser Gly Pro Ser Pro Ser Cys Leu Gly
      85              90              95

Asp Ser Leu Ala Glu Thr Thr Leu Ser Glu Asp Thr Thr Asp Ser Val
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 <213> Homo sapiens

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<212> PRT
<213> Homo sapiens

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Arg Ile Ser Tyr Tyr Ser Thr Pro Ile Ala Val Gly Thr Val Ile Arg
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Tyr Ser Cys Ser Gly Thr Phe Arg Leu Ile Gly Glu Lys Ser Leu Leu
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Cys Ile Thr Lys Asp Lys Val Asp Gly Thr Trp Asp Lys Pro Ala Pro
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Lys Cys Glu Tyr Phe Asn Lys Tyr Ser Ser Cys Pro Glu Pro Ile Val
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Pro Gly Gly Tyr Lys Ile Arg Gly Ser Thr Pro Tyr Arg His Gly Asp
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Ser Val Thr Phe Ala Cys Lys Thr Asn Phe Ser Met Asn Gly Asn Lys
 115                120                125

Ser Val Trp Cys Gln Ala Asn Asn Met Trp Gly Pro Thr Arg Leu Pro
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Thr Cys Val Ser Val Phe Pro Leu Glu Cys Pro Ala Leu Pro Met Ile
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His Asn Gly His His Thr Ser Glu Asn Val Gly Ser Ile Ala Pro Gly
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Leu Ser Val Thr Tyr Ser Cys Glu Ser Gly Tyr Leu Leu Val Gly Glu
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Lys Ile Ile Asn Cys Leu Ser Ser Gly Lys Trp Ser Ala Val Pro Pro
 195                200                205

Thr Cys Glu Glu Ala Arg Cys Lys Ser Leu Gly Arg Phe Pro Asn Gly
 210                215                220

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Phe Cys Asp Glu Gly Tyr Arg Leu Gln Gly Pro Pro Ser Ser Arg Cys
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Glu	Arg	Gly	Val	Glu	Phe	Ser	Leu	Ile	Gly	Glu	Ser	Thr	Ile	Arg	Cys	565	570	575

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Gly	Ile	Trp	Phe	Lys	Lys	Ile	Pro	Leu	Cys	Lys	Val	Ile	His	Cys	His	
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 <212> DNA
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<212> PRT
<213> Homo sapiens

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Ala Val Gly Gln Leu Gly Val Arg Val Phe His Ser Ser Pro Ala Ala
          35             40             45

Ser Ser Leu Asp Phe Ile Gly Gly Pro Ala Ile Leu Leu Gly Leu Ile
          50             55             60

Ser Leu Ala Thr Asp Asp His Thr Met Tyr Ala Ala Val Lys Val Leu
          65             70             75             80

His Ser Val Leu Thr Ser Asn Ala Met Cys Asp Phe Leu Met Gln His
          85             90             95

Ile Cys Gly Tyr Gln Ile Met Ala Phe Leu Leu Arg Lys Lys Ala Ser
          100            105            110

Leu Leu Asn His Arg Ile Phe Gln Leu Ile Leu Ser Val Ala Gly Thr
          115            120            125

Val Glu Leu Gly Phe Arg Ser Ser Ala Ile Thr Asn Thr Gly Val Phe
          130            135            140

Gln His Ile Leu Cys Asn Phe Glu Leu Trp Met Asn Thr Ala Asp Asn
          145            150            155            160

Leu Glu Leu Ser Leu Phe Ser His Leu Leu Glu Ile Leu Gln Ser Pro
          165            170            175

Arg Glu Gly Pro Arg Asn Ala Glu Ala Ala His Gln Ala Gln Leu Ile
          180            185            190

Pro Lys Leu Ile Phe Leu Phe Asn Glu Pro Ser Leu Ile Pro Ser Lys
          195            200            205

Ile Pro Thr Ile Ile Gly Ile Leu Ala Cys Gln Leu Arg Gly His Phe
          210            215            220

Ser Thr Gln Asp Leu Leu Arg Ile Gly Leu Phe Val Val Tyr Thr Leu
          225            230            235            240

Lys Pro Ser Ser Val Asn Glu Arg Gln Ile Cys Met Asp Gly Ala Leu
          245            250            255

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Asp	Pro	Ser	Leu	Pro	Ala	Gly	Ser	Gln	Thr	Ser	Gly	Lys	Thr	Ile	Trp	260	265	270	
Leu	Arg	Asn	Gln	Leu	Leu	Glu	Met	Leu	Leu	Ser	Val	Ile	Ser	Ser	Pro	275	280	285	
Gln	Leu	His	Leu	Ser	Ser	Glu	Ser	Lys	Glu	Glu	Met	Phe	Leu	Lys	Leu	290	295	300	
Gly	Pro	Asp	Trp	Phe	Leu	Leu	Leu	Leu	Gln	Gly	His	Leu	His	Ala	Ser	305	310	315	320
Thr	Thr	Val	Leu	Ala	Leu	Lys	Leu	Leu	Leu	Tyr	Phe	Leu	Ala	Ser	Pro	325	330	335	
Ser	Leu	Arg	Thr	Arg	Phe	Arg	Asp	Gly	Leu	Cys	Ala	Gly	Ser	Trp	Val	340	345	350	
Glu	Arg	Ser	Thr	Glu	Gly	Val	Asp	Ile	Val	Met	Asp	Asn	Leu	Lys	Ser	355	360	365	
Gln	Ser	Pro	Leu	Pro	Glu	Gln	Ser	Pro	Cys	Leu	Leu	Pro	Gly	Phe	Arg	370	375	380	
Val	Leu	Asn	Asp	Phe	Leu	Ala	His	His	Val	His	Ile	Pro	Glu	Val	Tyr	385	390	395	400
Leu	Ile	Val	Ser	Thr	Phe	Phe	Leu	Gln	Thr	Pro	Leu	Thr	Glu	Leu	Met	405	410	415	
Asp	Gly	Pro	Lys	Asp	Ser	Leu	Asp	Ala	Met	Leu	Gln	Trp	Leu	Leu	Gln	420	425	430	
Arg	His	His	Gln	Glu	Glu	Val	Leu	Gln	Ala	Gly	Leu	Cys	Thr	Glu	Gly	435	440	445	
Ala	Leu	Leu	Leu	Leu	Glu	Met	Leu	Lys	Ala	Thr	Met	Ser	Gln	Pro	Leu	450	455	460	
Ala	Gly	Ser	Glu	Asp	Gly	Ala	Trp	Ala	Gln	Thr	Phe	Pro	Ala	Ser	Val	465	470	475	480
Leu	Gln	Phe	Leu	Ser	Leu	Val	His	Arg	Thr	Tyr	Pro	Gln	Asp	Pro	Ala	485	490	495	
Trp	Arg	Ala	Pro	Glu	Phe	Leu	Gln	Thr	Leu	Ala	Ile	Ala	Ala	Phe	Pro	500	505	510	
Leu	Gly	Ala	Gln	Lys	Gly	Val	Gly	Ala	Glu	Ser	Thr	Arg	Asn	Thr	Ser	515	520	525	
Ser	Pro	Glu	Ala	Ala	Ala	Glu	Gly	Asp	Ser	Thr	Val	Glu	Gly	Leu	Gln	530	535	540	
Ala	Pro	Thr	Lys	Ala	His	Pro	Ala	Arg	Arg	Lys	Leu	Arg	Glu	Phe	Thr	545	550	555	560
Gln	Leu	Leu	Leu	Arg	Glu	Leu	Leu	Leu	Gly	Ala	Ser	Ser	Pro	Lys	Gln	565	570	575	

Trp Leu Pro Leu Glu Val Leu Leu Glu Ala Ser Pro Asp His Ala Thr
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 Ser Gln Gln Lys Arg Asp Phe Gln Ser Glu Val Leu Leu Ser Ala Met
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 Glu Leu Phe His Met Thr Ser Gly Gly Asp Ala Ala Met Phe Arg Asp
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 Gly Lys Glu Pro Gln Pro Ser Ala Glu Ala Ala Ala Pro Ser Leu
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 Ala Asn Ile Ser Cys Phe Thr Gln Lys Leu Val Glu Lys Leu Tyr Ser
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 Gly Met Phe Ser Ala Asp Pro Arg His Ile Leu Leu Phe Ile Leu Glu
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 His Ile Met Val Val Ile Glu Thr Ala Ser Ser Gln Arg Asp Thr Val
 675 680 685
 Leu Ser Thr Leu Tyr Ser Ser Leu Asn Lys Val Ile Leu Tyr Cys Leu
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 Ser Lys Pro Gln Gln Ser Leu Ser Glu Cys Leu Gly Leu Leu Ser Ile
 705 710 715 720
 Leu Gly Phe Leu Gln Glu His Trp Asp Val Val Phe Ala Thr Tyr Asn
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 Ser Asn Ile Ser Phe Leu Leu Cys Leu Met His Cys Leu Leu Leu Leu
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 Asn Glu Arg Ser Tyr Pro Glu Gly Phe Gly Leu Glu Pro Lys Pro Arg
 755 760 765
 Met Ser Thr Tyr His Gln Val Phe Leu Ser Pro Asn Glu Asp Val Lys
 770 775 780
 Glu Lys Arg Glu Asp Leu Pro Ser Leu Ser Asp Val Gln His Asn Ile
 785 790 795 800
 Gln Lys Thr Val Gln Thr Leu Trp Gln Gln Leu Val Ala Gln Arg Gln
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 Gln Thr Leu Glu Asp Ala Phe Lys Ile Asp Leu Ser Val Lys Pro Gly
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 Glu Arg Glu Val Lys Ile Glu Glu Val Thr Pro Leu Trp Glu Glu Thr
 835 840 845
 Met Leu Lys Ala Trp Gln His Tyr Leu Ala Ser Glu Lys Lys Ser Leu
 850 855 860
 Ala Ser Arg Ser Asn Val Ala His His Ser Lys Val Thr Leu Trp Ser
 865 870 875 880
 Gly Ser Leu Ser Ser Ala Met Lys Leu Met Pro Gly Arg Gln Ala Lys
 885 890 895

Asp Pro Glu Cys Lys Thr Glu Asp Phe Val Ser Cys Ile Glu Asn Tyr
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 Arg Arg Arg Gly Gln Glu Leu Tyr Ala Ser Leu Tyr Lys Asp His Val
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 Ile Gln Glu Gln Leu Phe Gly Glu Leu Gly Leu Trp Ser Gln Gly Glu
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 Glu Thr Lys Pro Cys Ser Pro Trp Glu Leu Asp Trp Arg Glu Gly Pro
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 Ala Arg Met Arg Lys Arg Ile Lys Arg Leu Ser Pro Leu Glu Ala Leu
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 Ser Ser Gly Arg His Lys Glu Ser Gln Asp Lys Asn Asp His Ile Ser
 995 1000 1005
 Gln Thr Asn Ala Glu Asn Gln Asp Glu Leu Thr Leu Arg Glu Ala Glu
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 Gly Val Leu Leu Phe Gly His Gln His Phe Tyr Ile Cys Glu Asn Phe
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Asp Arg Ile Met Leu Gln Lys Trp Gln Lys Arg Asp Ile Ser Asn Phe
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 Tyr Met Gln Tyr Pro Val Phe Pro Trp Val Leu Ala Asp Tyr Thr Ser
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 Glu Thr Leu Asn Leu Ala Asn Pro Lys Ile Phe Arg Asp Leu Ser Lys
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 Pro Met Gly Ala Gln Thr Lys Glu Arg Lys Leu Lys Phe Ile Gln Arg
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 Phe Lys Glu Val Glu Lys Thr Glu Gly Asp Met Thr Val Gln Cys His
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 1395 1400 1405
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Pro Ser Gln Val Thr Val Lys Asp Met Tyr Leu Phe Ser Leu Gly Ser
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Glu Ser Pro Lys Gly Ala Ile Gly His Ile Val Ser Thr Glu Lys Thr
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Ile Leu Ala Val Glu Arg Asn Lys Val Leu Leu Pro Pro Leu Trp Asn
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Arg Thr Phe Ser Trp Gly Phe Asp Asp Phe Ser Cys Cys Leu Gly Ser
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Tyr Gly Ser Asp Lys Ser
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Ala Leu Trp Ala Gly Leu Leu Thr Leu Leu Leu Leu Trp His Trp Asp
      35              40              45

Thr Thr Gln Ser Leu Lys Gln Leu Glu Glu Arg Ala Ala Arg Asn Val
      50              55              60

Ser Gln Val Ser Lys Asn Leu Glu Ser His His Gly Asp Gln Met Ala
      65              70              75              80

Gln Lys Ser Gln Ser Thr Gln Ile Ser Gln Glu Leu Glu Glu Leu Arg
      85              90              95

Ala Glu Gln Gln Arg Leu Lys Ser Gln Asp Leu Glu Leu Ser Trp Asn
      100             105             110

Leu Asn Gly Leu Gln Ala Asp Leu Ser Ser Phe Lys Ser Gln Glu Leu
      115             120             125

Asn Glu Arg Asn Glu Ala Ser Asp Leu Leu Glu Arg Leu Arg Glu Glu
      130             135             140

Val Thr Lys Leu Arg Met Glu Leu Gln Val Ser Ser Gly Phe Val Cys
      145             150             155             160

Asn Thr Cys Pro Glu Lys Trp Ile Asn Phe Gln Arg Lys Cys Tyr Tyr
      165             170             175

Phe Gly Lys Gly Thr Lys Gln Trp Val His Ala Arg Tyr Ala Cys Asp
      180             185             190

Asp Met Glu Gly Gln Leu Val Ser Ile His Ser Pro Glu Glu Gln Asp
      195             200             205

Phe Leu Thr Lys His Ala Ser His Thr Gly Ser Trp Ile Gly Leu Arg
      210             215             220

Asn Leu Asp Leu Lys Gly Glu Phe Ile Trp Val Asp Gly Ser His Val
      225             230             235             240

Asp Tyr Ser Asn Trp Ala Pro Gly Glu Pro Thr Ser Arg Ser Gln Gly
      245             250             255

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Glu Asp Cys Val Met Met Arg Gly Ser Gly Arg Trp Asn Asp Ala Phe
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 Cys Asp Arg Lys Leu Gly Ala Trp Val Cys Asp Arg Leu Ala Thr Cys
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 Ser

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 aacaacacat caattaccaa caccagcgcc acgaacacat tcacgtccat caacacatca 180
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<211> 568
<212> PRT
<213> Homo sapiens

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Ser Pro Pro Val Ser Asp Thr Pro Asp Glu Gly Asp Glu Pro Met Pro
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Ser	Asp	Arg	Gly	Met	Ala	Ser	Asn	Val	Lys	Val	Glu	Thr	Gln	Ser	Asp	50	55	60	
Glu	Glu	Asn	Gly	Arg	Ala	Cys	Glu	Met	Asn	Gly	Glu	Glu	Cys	Ala	Glu	65	70	75	80
Asp	Leu	Arg	Met	Leu	Asp	Ala	Ser	Gly	Glu	Lys	Met	Asn	Gly	Ser	His	85	90	95	
Arg	Asp	Gln	Gly	Ser	Ser	Ala	Leu	Ser	Gly	Val	Gly	Gly	Ile	Arg	Leu	100	105	110	
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Ala	Lys	Arg	Lys	Ser	Ser	Met	Pro	Gln	Lys	Phe	Leu	Gly	Asp	Lys	Cys	325	330	335	
Leu	Ser	Asp	Met	Pro	Tyr	Asp	Ser	Ala	Asn	Tyr	Glu	Lys	Glu	Asp	Met	340	345	350	

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 515 520 525
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 <212> DNA
 <213> Homo sapiens

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 <211> 850
 <212> DNA
 <213> Homo sapiens

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Thr Leu Ile Trp Arg Leu Phe Phe Leu Ile Met Phe Leu Thr Ile Ile
  35              40              45

Val Cys Gly Met Val Ala Ala Leu Ser Ala Ile Arg Ala Asn Cys His
  50              55              60

Gln Glu Pro Ser Val Cys Leu Gln Ala Ala Cys Pro Glu Ser Trp Ile
  65              70              75              80

Gly Phe Gln Arg Lys Cys Phe Tyr Phe Ser Asp Asp Thr Lys Asn Trp
      85              90              95

Thr Ser Ser Gln Arg Phe Cys Asp Ser Gln Asp Ala Asp Leu Ala Gln
  100              105              110

Val Glu Ser Phe Gln Glu Leu Asn Phe Leu Leu Arg Tyr Lys Gly Pro
  115              120              125

Ser Asp His Trp Ile Gly Leu Ser Arg Glu Gln Gly Gln Pro Trp Lys
  130              135              140

Trp Ile Asn Gly Thr Glu Trp Thr Arg Gln Phe Pro Ile Leu Gly Ala
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 <212> DNA
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<210> 32
 <211> 334
 <212> PRT
 <213> Homo sapiens

<400> 32
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 35 40 45
 Gly His Arg Leu Thr Asp Arg Leu Gln Val Ala Ile Lys Val Ile Pro
 50 55 60
 Arg Asn Arg Val Leu Gly Trp Ser Pro Leu Ser Asp Ser Val Thr Cys
 65 70 75 80
 Pro Leu Glu Val Ala Leu Leu Trp Lys Val Gly Ala Gly Gly Gly His
 85 90 95
 Pro Gly Val Ile Arg Leu Leu Asp Trp Phe Glu Thr Gln Glu Gly Phe
 100 105 110
 Met Leu Val Leu Glu Arg Pro Leu Pro Ala Gln Asp Leu Phe Asp Tyr
 115 120 125
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 130 135 140
 Gly Gln Val Val Ala Ala Ile Gln His Cys His Ser Arg Gly Val Val
 145 150 155 160
 His Arg Asp Ile Lys Asp Glu Asn Ile Leu Ile Asp Leu Arg Arg Gly
 165 170 175
 Cys Ala Lys Leu Ile Asp Phe Gly Ser Gly Ala Leu Leu His Asp Glu
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 Pro Tyr Thr Asp Phe Asp Gly Thr Arg Val Tyr Ser Pro Pro Glu Trp
 195 200 205
 Ile Ser Arg His Gln Tyr His Ala Leu Pro Ala Thr Val Trp Ser Leu
 210 215 220
 Gly Ile Leu Leu Tyr Asp Met Val Cys Gly Asp Ile Pro Phe Glu Arg
 225 230 235 240
 Asp Gln Glu Ile Leu Glu Ala Glu Leu His Phe Pro Ala His Val Ser
 245 250 255
 Pro Asp Cys Cys Ala Leu Ile Arg Arg Cys Leu Ala Pro Lys Pro Ser
 260 265 270

Ser Arg Pro Ser Leu Glu Glu Ile Leu Leu Asp Pro Trp Met Gln Thr
275 280 285

Pro Ala Glu Asp Val Thr Pro Gln Pro Leu Gln Arg Arg Pro Cys Pro
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Phe Gly Leu Val Leu Ala Thr Leu Ser Leu Ala Trp Pro Gly Leu Ala
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Pro Asn Gly Gln Lys Ser His Pro Met Ala Met Ser Gln Gly
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<210> 33
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<212> DNA
<213> Homo sapiens

<400> 33

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<211> 3144
<212> DNA
<213> Homo sapiens

<400> 34

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<210> 35
<211> 755
<212> PRT
<213> Homo sapiens

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          20                      25                      30

Thr Asp Ser Cys Glu Pro Ala Pro Glu Cys Ser Ser Leu Glu Gln Glu
          35                      40                      45

Glu Leu Gln Ala Leu Gln Ile Glu Gln Gly Glu Ser Ser Gln Asn Gly
          50                      55                      60

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Thr	Val	Leu	Met	Glu	Glu	Thr	Ala	Tyr	Pro	Ala	Leu	Glu	Glu	Thr	Ser	65	70	75	80
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Ile	Gly	Thr	Ala	Ser	Asp	Asp	Ser	Asp	Ile	Val	Thr	Leu	Glu	Pro	Pro	100	105	110	
Lys	Leu	Glu	Glu	Ile	Gly	Asn	Gln	Glu	Val	Val	Ile	Val	Glu	Glu	Ala	115	120	125	
Gln	Ser	Ser	Glu	Asp	Phe	Asn	Met	Gly	Ser	Ser	Ser	Ser	Ser	Gln	Tyr	130	135	140	
Thr	Phe	Cys	Gln	Pro	Glu	Thr	Val	Phe	Ser	Ser	Gln	Pro	Ser	Asp	Asp	145	150	155	160
Glu	Ser	Ser	Ser	Asp	Glu	Thr	Ser	Asn	Gln	Pro	Ser	Pro	Ala	Phe	Arg	165	170	175	
Arg	Arg	Arg	Ala	Arg	Lys	Lys	Thr	Val	Ser	Ala	Ser	Glu	Ser	Glu	Asp	180	185	190	
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Arg	Gln	Phe	Ser	Ser	Gly	Leu	Asn	Lys	Cys	Val	Ile	Leu	Ala	Leu	Val	210	215	220	
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Gln	Lys	Arg	Gln	Gln	Leu	Val	Arg	Lys	Ile	His	Glu	Asp	Glu	Leu	Asn	245	250	255	
Asp	Met	Lys	Asp	Tyr	Leu	Ser	Gln	Cys	Gln	Gln	Glu	Gln	Glu	Ser	Phe	260	265	270	
Ile	Asp	Tyr	Lys	Ser	Leu	Lys	Glu	Asn	Leu	Ala	Arg	Cys	Trp	Thr	Leu	275	280	285	
Thr	Glu	Ala	Glu	Lys	Met	Ser	Phe	Glu	Thr	Gln	Lys	Thr	Asn	Leu	Ala	290	295	300	
Thr	Glu	Asn	Gln	Tyr	Leu	Arg	Val	Ser	Leu	Glu	Lys	Glu	Glu	Lys	Ala	305	310	315	320
Leu	Ser	Ser	Leu	Gln	Glu	Glu	Leu	Asn	Lys	Leu	Arg	Glu	Gln	Ile	Arg	325	330	335	
Ile	Leu	Glu	Asp	Lys	Gly	Thr	Ser	Thr	Glu	Leu	Val	Lys	Glu	Asn	Gln	340	345	350	
Lys	Leu	Lys	Gln	His	Leu	Glu	Glu	Glu	Lys	Gln	Lys	Lys	His	Ser	Phe	355	360	365	
Leu	Ser	Gln	Arg	Glu	Thr	Leu	Leu	Thr	Glu	Ala	Lys	Met	Leu	Lys	Arg	370	375	380	

Glu	Leu	Glu	Arg	Glu	Arg	Leu	Val	Thr	Thr	Ala	Leu	Arg	Gly	Glu	Leu	385	390	395	400
Gln	Gln	Leu	Ser	Gly	Ser	Gln	Leu	His	Gly	Lys	Ser	Asp	Ser	Pro	Asn	405	410		415
Val	Tyr	Thr	Glu	Lys	Lys	Glu	Ile	Ala	Ile	Leu	Arg	Glu	Arg	Leu	Thr	420	425		430
Glu	Leu	Glu	Arg	Lys	Leu	Thr	Phe	Glu	Gln	Gln	Arg	Ser	Asp	Leu	Trp	435	440		445
Glu	Arg	Leu	Tyr	Val	Glu	Ala	Lys	Asp	Gln	Asn	Gly	Lys	Gln	Gly	Thr	450	455		460
Asp	Gly	Lys	Lys	Lys	Gly	Gly	Arg	Gly	Ser	His	Arg	Ala	Lys	Asn	Lys	465	470	475	480
Ser	Lys	Glu	Thr	Phe	Leu	Gly	Ser	Val	Lys	Glu	Thr	Phe	Asp	Ala	Met	485	490		495
Lys	Asn	Ser	Thr	Lys	Glu	Phe	Val	Arg	His	His	Lys	Glu	Lys	Ile	Lys	500	505		510
Gln	Ala	Lys	Glu	Ala	Val	Lys	Glu	Asn	Leu	Lys	Lys	Phe	Ser	Asp	Ser	515	520		525
Val	Lys	Ser	Thr	Phe	Arg	His	Phe	Lys	Asp	Thr	Thr	Lys	Asn	Ile	Phe	530	535	540	
Asp	Glu	Lys	Gly	Asn	Lys	Arg	Phe	Gly	Ala	Thr	Lys	Glu	Ala	Ala	Glu	545	550	555	560
Lys	Pro	Arg	Thr	Val	Phe	Ser	Asp	Tyr	Leu	His	Pro	Gln	Tyr	Lys	Ala	565	570		575
Pro	Thr	Glu	Asn	His	Ser	Arg	Pro	Tyr	Tyr	Ala	Lys	Arg	Trp	Lys	Glu	580	585		590
Glu	Lys	Pro	Val	His	Phe	Lys	Glu	Phe	Arg	Lys	Asn	Thr	Asn	Ser	Lys	595	600		605
Lys	Cys	Ser	Pro	Gly	His	Asp	Cys	Arg	Glu	Asn	Ser	His	Ser	Phe	Arg	610	615	620	
Lys	Ala	Cys	Ser	Gly	Val	Phe	Asp	Cys	Ala	Gln	Gln	Glu	Ser	Met	Ser	625	630	635	640
Leu	Phe	Asn	Thr	Val	Val	Ile	Pro	Ile	Arg	Met	Asp	Glu	Phe	Arg	Gln	645	650		655
Ile	Ile	Gln	Arg	Tyr	Met	Leu	Lys	Glu	Leu	Asp	Thr	Phe	Cys	Arg	Trp	660	665		670
Asn	Glu	Leu	Asp	Gln	Phe	Ile	Asn	Lys	Phe	Phe	Leu	Asn	Gly	Val	Phe	675	680	685	
Ile	His	Asp	Gln	Lys	Leu	Phe	Thr	Asp	Phe	Val	Asn	Asp	Val	Lys	Ile	690	695	700	

Ile Leu Gly Asn Met Lys Glu Tyr Glu Val Asp Asn Asp Gly Val Phe
705 710 715 720

Glu Lys Leu Asp Glu Tyr Ile Tyr Arg His Phe Phe Gly His Thr Phe
725 730 735

Ser Pro Pro Tyr Gly Pro Arg Ser Val Tyr Ile Lys Pro Cys His Tyr
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Ser Ser Leu
755

<210> 36
<211> 558
<212> DNA
<213> Homo sapiens

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<210> 37
<211> 86
<212> PRT
<213> Homo sapiens

<220>
<221> MOD_RES
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<400> 37
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20 25 30
Ala Lys Leu Ile Asp Phe Gly Ser Gly Ala Leu Leu His Asp Glu Pro
35 40 45
Tyr Thr Asp Phe Asp Gly Thr Arg Val Tyr Ser Pro Pro Glu Trp Ile
50 55 60

Ser Arg His Gln Tyr His Ala Leu Pro Ala Thr Val Trp Ser Leu Gly
65 70 75 80

Ile Xaa Leu Tyr Asp Met
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<210> 38
<211> 584
<212> DNA
<213> Homo sapiens

<220>
<221> modified_base
<222> (1)..(584)
<223> n = g, a, c or t

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<210> 39
<211> 2052
<212> DNA
<213> Homo sapiens

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taatagaatc ag 2052

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<210> 40
 <211> 311
 <212> PRT
 <213> Homo sapiens

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<400> 40
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      20              25              30

Arg Leu Gly Pro Leu Leu Gly Lys Gly Gly Phe Gly Thr Val Phe Ala
      35              40              45

Gly His Arg Leu Thr Asp Arg Leu Gln Val Ala Ile Lys Val Ile Pro
      50              55              60

Arg Asn Arg Val Leu Gly Trp Ser Pro Leu Ser Asp Ser Val Thr Cys
      65              70              75              80

Pro Leu Glu Val Ala Leu Leu Trp Lys Val Gly Ala Gly Gly Gly His
      85              90              95

Pro Gly Val Ile Arg Leu Leu Asp Trp Phe Glu Thr Gln Glu Gly Phe
      100             105             110

Met Leu Val Leu Glu Arg Pro Leu Pro Ala Gln Asp Leu Phe Asp Tyr
      115             120             125

Ile Thr Glu Lys Gly Pro Leu Gly Glu Gly Pro Ser Arg Cys Phe Phe
      130             135             140

Gly Gln Val Val Ala Ala Ile Gln His Cys His Ser Arg Gly Val Val
      145             150             155             160

His Arg Asp Ile Lys Asp Glu Asn Ile Leu Ile Asp Leu Arg Arg Gly
      165             170             175

Cys Ala Lys Leu Ile Asp Phe Gly Ser Gly Ala Leu Leu His Asp Glu
      180             185             190

Pro Tyr Thr Asp Phe Asp Gly Thr Arg Val Tyr Ser Pro Pro Glu Trp
      195             200             205

Ile Ser Arg His Gln Tyr His Ala Leu Pro Ala Thr Val Trp Ser Leu
      210             215             220

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Gly Ile Leu Leu Tyr Asp Met Val Cys Gly Asp Ile Pro Phe Glu Arg
 225 230 235 240
 Asp Gln Glu Ile Leu Glu Ala Glu Leu His Phe Pro Ala His Val Ser
 245 250 255
 Pro Asp Cys Cys Ala Leu Ile Arg Arg Cys Leu Ala Pro Lys Pro Ser
 260 265 270
 Ser Arg Pro Ser Leu Glu Glu Ile Leu Leu Asp Pro Trp Met Gln Thr
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 Pro Ala Glu Asp Val Pro Leu Asn Pro Ser Lys Gly Gly Pro Ala Pro
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 Leu Ala Trp Ser Leu Leu Pro
 305 310

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 <213> Homo sapiens

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 35 40 45
 Leu Ala Phe Val Pro Leu Gln Ile Trp Ser Lys Val Leu Ala Ile Ser
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 Gly Ile Phe Thr Met Gly Ile Ala Leu Leu Gly Cys Val Gly Ala Leu
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 Lys Glu Leu Arg Cys Leu Leu Gly Leu Tyr Phe Gly Met Leu Leu Leu
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 Ala Gln Leu Glu Arg Ser Leu Arg Asp Val Val Glu Lys Thr Ile Gln
 115 120 125
 Lys Tyr Gly Thr Asn Pro Glu Glu Thr Ala Ala Glu Glu Ser Trp Asp
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 Tyr Val Gln Phe Gln Leu Arg Cys Cys Gly Trp His Tyr Pro Gln Asp
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 Val Pro Cys Ser Cys Tyr Asn Leu Ser Ala Thr Asn Asp Ser Thr Ile
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 Arg Ser Arg His Ser Ala Asp Ile Cys Ala Val Pro Ala Glu Ser His
 210 215 220
 Ile Tyr Arg Glu Gly Cys Ala Gln Gly Leu Gln Lys Trp Leu His Asn
 225 230 235 240
 Asn Leu Ile Ser Ile Val Gly Ile Cys Leu Gly Val Gly Leu Leu Glu
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 <211> 432
 <212> PRT
 <213> Homo sapiens

<400> 45

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Pro	Pro	Ala	Ala	Asp	Gly	Glu	Asp	Gly	Gln	Asp	Pro	His	Ser	Lys	His	50	55	60	
Leu	Tyr	Thr	Ala	Asp	Met	Phe	Thr	His	Gly	Ile	Gln	Ser	Ala	Ala	His	65	70	75	80
Phe	Val	Met	Phe	Phe	Ala	Pro	Trp	Cys	Gly	His	Cys	Gln	Arg	Leu	Gln	85	90	95	
Pro	Thr	Trp	Asn	Asp	Leu	Gly	Asp	Lys	Tyr	Asn	Ser	Met	Glu	Asp	Ala	100	105	110	
Lys	Val	Tyr	Val	Ala	Lys	Val	Asp	Cys	Thr	Ala	His	Ser	Asp	Val	Cys	115	120	125	
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Gly	Gln	Glu	Ala	Val	Lys	Tyr	Gln	Gly	Pro	Arg	Asp	Phe	Gln	Thr	Leu	145	150	155	160
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Asn	Gln	Val	Arg	Gly	Tyr	Pro	Thr	Leu	Leu	Trp	Phe	Arg	Asp	Gly	Lys	260	265	270	
Lys	Val	Asp	Gln	Tyr	Lys	Gly	Lys	Arg	Asp	Leu	Glu	Ser	Leu	Arg	Glu	275	280	285	
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Val	Thr	Pro	Ser	Glu	Ala	Pro	Val	Leu	Ala	Ala	Glu	Pro	Glu	Ala	Asp	305	310	315	320


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<211> 762
<212> PRT
<213> Homo sapiens

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      20              25              30

Gly Gly Gly Gln Gly Pro Met Pro Arg Val Arg Tyr Tyr Ala Gly Asp
      35              40              45

Glu Arg Arg Ala Leu Ser Phe Phe His Gln Lys Gly Leu Gln Asp Phe
      50              55              60

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Leu	Lys	Asn	Met	Ile	Pro	Trp	Pro	Ala	Ser	Asp	Arg	Lys	Lys	Ser	Glu	100	105	110	
Cys	Ala	Phe	Lys	Lys	Lys	Ser	Asn	Glu	Thr	Gln	Cys	Phe	Asn	Phe	Ile	115	120	125	
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Phe	Ala	Phe	Ser	Pro	Ala	Cys	Thr	Phe	Ile	Glu	Leu	Gln	Asp	Ser	Tyr	145	150	155	160
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Arg	Trp	Leu	His	His	Asp	Ala	Ser	Phe	Val	Ala	Ala	Ile	Pro	Ser	Thr	225	230	235	240
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Ala	Gln	Leu	Leu	Ser	Ala	Pro	Ser	Arg	Gly	Ser	Cys	Pro	Ser	Thr	Ser	290	295	300	
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Pro	His	Cys	Ala	Trp	Asp	Pro	Glu	Ser	Arg	Thr	Cys	Cys	Leu	Leu	Ser	515	520	525	
Ala	Pro	Asn	Leu	Asn	Ser	Trp	Lys	Gln	Asp	Met	Glu	Arg	Gly	Asn	Pro	530	535	540	
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Ser	Arg	Pro	Gln	Ile	Ile	Lys	Glu	Val	Leu	Ala	Val	Pro	Asn	Ser	Ile	565	570	575	
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Cys	Trp	Ala	Thr	Glu	Asn	Gly	Phe	Ser	Tyr	Pro	Val	Ile	Ser	Tyr	Trp	625	630	635	640
Val	Asp	Ser	Gln	Asp	Gln	Thr	Leu	Ala	Leu	Asp	Pro	Glu	Leu	Ala	Gly	645	650	655	
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Ala	Ala	Leu	Ala	Ala	Gln	Gln	Ser	Tyr	Trp	Pro	His	Phe	Val	Thr	Val	675	680	685	
Thr	Val	Leu	Phe	Ala	Leu	Val	Leu	Ser	Gly	Ala	Leu	Ile	Ile	Leu	Val	690	695	700	

Ala Ser Pro Leu Arg Ala Leu Arg Ala Arg Gly Lys Val Gln Gly Cys
705 710 715 720

Glu Thr Leu Arg Pro Gly Glu Lys Ala Pro Leu Ser Arg Glu Gln His
725 730 735

Leu Gln Ser Pro Lys Glu Cys Arg Thr Ser Ala Ser Asp Val Asp Ala
740 745 750

Asp Asn Asn Cys Leu Gly Thr Glu Val Ala
755 760

<210> 49
<211> 182
<212> DNA
<213> Homo sapiens

<220>
<221> modified_base
<222> (1)..(182)
<223> n = g, a, c or t

<400> 49
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acatggggga gggcaccaag aaccgaatca tcacagccga ggggatcatc ctctgttct 120
gcgcggtggt gcctgggacg ctgctgctgt tnaggaaacg atggcaagaa cganaactcn 180
gg 182

<210> 50
<211> 60
<212> PRT
<213> Homo sapiens

<220>
<221> MOD_RES
<222> (1)..(60)
<223> Xaa = any amino acid

<400> 50
Gln Gln Ser Cys Gly Thr Tyr Leu Arg Val Arg Gln Pro Pro Pro Arg
1 5 10 15

Pro Phe Leu Asp Met Gly Glu Gly Thr Lys Asn Arg Ile Ile Thr Ala
20 25 30

Glu Gly Ile Ile Leu Leu Phe Cys Ala Val Val Pro Gly Thr Leu Leu
35 40 45

Leu Xaa Arg Lys Arg Trp Gln Glu Arg Xaa Leu Xaa
50 55 60

<210> 51
<211> 182
<212> DNA
<213> Homo sapiens

<220>
 <221> modified_base
 <222> (1)..(182)
 <223> n = g, a, c or t

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 gcgcggtggt gcctgggacg ctgctgctgt tnaggaaacg atggcaagaa cganaactcn 180
 gg 182

<210> 52
 <211> 60
 <212> PRT
 <213> Homo sapiens

<220>
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 <222> (1)..(60)
 <223> Xaa = any amino acid

<400> 52
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 1 5 10 15

 Pro Phe Leu Asp Met Gly Glu Gly Thr Lys Asn Arg Ile Ile Thr Ala
 20 25 30

 Glu Gly Ile Ile Leu Leu Phe Cys Ala Val Val Pro Gly Thr Leu Leu
 35 40 45

 Leu Xaa Arg Lys Arg Trp Gln Glu Arg Xaa Leu Xaa
 50 55 60

<210> 53
 <211> 1107
 <212> DNA
 <213> Homo sapiens

<400> 53
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 ggggtgccagg ccctgtggat gcacaaggtc ccagcatcat tgatgggtgag cctgggggaa 180
 gacgcccact tccaatgccc gcacaatagc agcaacaacg ccaacgtcac ctggtggcgc 240
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 tagtgataat aaattcttcc caactgc 1107

[illegible]

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ctcttagcat ttctcttcct catgcgaaag atccaagact gcagccagtg gaatgtcctc 180
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atgacaccct gccagctcaa tgtggacttt gttgtactcc tgggtctatgt cctcttcctg 540
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cagcatggaa ggctcatctt tatcactgtg ctcttctcca tcatcatctg ggtggtgtgg 660
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gacagtgatg gagctgagga ggatgtagca ttaacttcat atggtactcc cattcagccg 960
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<210> 56

<211> 345

<212> PRT

<213> Homo sapiens

<400> 56

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Asp Ala Glu Gly Pro Trp Gly Ile Ile Leu Glu Ser Leu Ala Ile Leu
      20              25              30

Gly Ile Val Val Thr Ile Leu Leu Leu Ala Phe Leu Phe Leu Met
      35              40              45

Arg Lys Ile Gln Asp Cys Ser Gln Trp Asn Val Leu Pro Thr Gln Leu
      50              55              60

Leu Phe Leu Leu Ser Val Leu Gly Leu Phe Gly Leu Ala Phe Ala Phe
      65              70              75              80

Ile Ile Glu Leu Asn Gln Gln Thr Ala Pro Val Arg Tyr Phe Leu Phe
      85              90              95

Gly Val Leu Phe Ala Leu Cys Phe Ser Cys Leu Leu Ala His Ala Ser
      100             105             110

Asn Leu Val Lys Leu Val Arg Gly Cys Val Ser Phe Ser Trp Thr Thr
      115             120             125

Ile Leu Cys Ile Ala Ile Gly Cys Ser Leu Leu Gln Ile Ile Ile Ala
      130             135             140

Thr Glu Tyr Val Thr Leu Ile Met Thr Arg Gly Met Met Phe Val Asn
      145             150             155             160

Met Thr Pro Cys Gln Leu Asn Val Asp Phe Val Val Leu Leu Val Tyr
      165             170             175

Val Leu Phe Leu Met Ala Leu Thr Phe Phe Val Ser Lys Ala Thr Phe
      180             185             190

Cys Gly Pro Cys Glu Asn Trp Lys Gln His Gly Arg Leu Ile Phe Ile
      195             200             205

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Thr Val Leu Phe Ser Ile Ile Ile Trp Val Val Trp Ile Ser Met Leu
 210 215 220
 Leu Arg Gly Asn Pro Gln Phe Gln Arg Gln Pro Gln Trp Asp Asp Pro
 225 230 235 240
 Val Val Cys Ile Ala Leu Val Thr Asn Ala Trp Val Phe Leu Leu Leu
 245 250 255
 Tyr Ile Val Pro Glu Leu Cys Ile Leu Tyr Arg Ser Cys Arg Gln Glu
 260 265 270
 Cys Pro Leu Gln Gly Asn Ala Cys Pro Val Thr Ala Tyr Gln His Ser
 275 280 285
 Phe Gln Val Glu Asn Gln Glu Leu Ser Arg Ala Arg Asp Ser Asp Gly
 290 295 300
 Ala Glu Glu Asp Val Ala Leu Thr Ser Tyr Gly Thr Pro Ile Gln Pro
 305 310 315 320
 Gln Thr Val Asp Pro Thr Gln Glu Cys Phe Ile Pro Gln Ala Lys Leu
 325 330 335
 Ser Pro Gln Gln Asp Ala Gly Gly Val
 340 345

<210> 57
 <211> 2457
 <212> DNA
 <213> Homo sapiens

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 cggaacccgc gaagccggcc cgcagccgcg acccgcgcag cctgccgctc tcccgcgcgc 240
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 tctggggatg actctgacaa cttctccggc tcaggtgcag gtgctttgca agatatcacc 420
 ttgtcacagc agacccccct cacttggaag gacacgcagc tctgacggc tattcccacg 480
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<210> 58
<211> 310
<212> PRT
<213> Homo sapiens

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<400> 58
Met Arg Arg Ala Ala Leu Trp Leu Trp Leu Cys Ala Leu Ala Leu Ser
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Leu Gln Pro Ala Leu Pro Gln Ile Val Ala Thr Asn Leu Pro Pro Glu
      20              25              30

Asp Gln Asp Gly Ser Gly Asp Asp Ser Asp Asn Phe Ser Gly Ser Gly
      35              40              45

Ala Gly Ala Leu Gln Asp Ile Thr Leu Ser Gln Gln Thr Pro Ser Thr
      50              55              60

Trp Lys Asp Thr Gln Leu Leu Thr Ala Ile Pro Thr Ser Pro Glu Pro
      65              70              75              80

Thr Gly Leu Glu Ala Thr Ala Ala Ser Thr Ser Thr Leu Pro Ala Gly
      85              90              95

Glu Gly Pro Lys Glu Gly Glu Ala Val Val Leu Pro Glu Val Glu Pro
      100             105             110

Gly Leu Thr Ala Arg Glu Gln Glu Ala Thr Pro Arg Pro Arg Glu Thr
      115             120             125

Thr Gln Leu Pro Thr Thr His Gln Ala Ser Thr Thr Thr Ala Thr Thr
      130             135             140

Ala Gln Glu Pro Ala Thr Ser His Pro His Arg Asp Met Gln Pro Gly
      145             150             155             160

His His Glu Thr Ser Thr Pro Ala Gly Pro Ser Gln Ala Asp Leu His
      165             170             175

Thr Pro His Thr Glu Asp Gly Gly Pro Ser Ala Thr Glu Arg Ala Ala
      180             185             190

Glu Asp Gly Ala Ser Ser Gln Leu Pro Ala Ala Glu Gly Ser Gly Glu
      195             200             205

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Gln Asp Phe Thr Phe Glu Thr Ser Gly Glu Asn Thr Ala Val Val Ala
 210 215 220
 Val Glu Pro Asp Arg Arg Asn Gln Ser Pro Val Asp Gln Gly Ala Thr
 225 230 235 240
 Gly Ala Ser Gln Gly Leu Leu Asp Arg Lys Glu Val Leu Gly Gly Val
 245 250 255
 Ile Ala Val Gly Leu Val Gly Leu Ile Phe Ala Val Cys Leu Val Gly
 260 265 270
 Phe Met Leu Tyr Arg Met Lys Lys Lys Asp Glu Gly Ser Tyr Ser Leu
 275 280 285
 Glu Glu Pro Lys Gln Ala Asn Gly Gly Ala Tyr Gln Lys Pro Thr Lys
 290 295 300
 Gln Glu Glu Phe Tyr Ala
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<210> 59
 <211> 357
 <212> DNA
 <213> Homo sapiens

<400> 59
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 tctgtcttca cccggagcga gctcaagttc tccccacagt ggagtcacca tgggaagatt 300
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<210> 60
 <211> 3260
 <212> DNA
 <213> Homo sapiens

<400> 60
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<210> 61
 <211> 847
 <212> PRT
 <213> Homo sapiens

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<400> 61
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                20                      25                     30

Tyr Ala Trp Glu Gly Ala Cys Val Trp Ile Pro Cys Thr Tyr Arg Ala
    35                      40                     45

Leu Asp Gly Asp Leu Glu Ser Phe Ile Leu Phe His Asn Pro Glu Tyr
    50                      55                     60

Asn Lys Asn Thr Ser Lys Phe Asp Gly Thr Arg Leu Tyr Glu Ser Thr
    65                      70                     75                     80

Lys Asp Gly Lys Val Pro Ser Glu Gln Lys Arg Val Gln Phe Leu Gly
    85                      90                     95

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Asp Lys Asn Lys Asn Cys Thr Leu Ser Ile His Pro Val His Leu Asn
 100 105 110
 Asp Ser Gly Gln Leu Gly Leu Arg Met Glu Ser Lys Thr Glu Lys Trp
 115 120 125
 Met Glu Arg Ile His Leu Asn Val Ser Glu Arg Pro Phe Pro Pro His
 130 135 140
 Ile Gln Leu Pro Pro Glu Ile Gln Glu Ser Gln Glu Val Thr Leu Thr
 145 150 155 160
 Cys Leu Leu Asn Phe Ser Cys Tyr Gly Tyr Pro Ile Gln Leu Gln Trp
 165 170 175
 Leu Leu Glu Gly Val Pro Met Arg Gln Ala Ala Val Thr Ser Thr Ser
 180 185 190
 Leu Thr Ile Lys Ser Val Phe Thr Arg Ser Glu Leu Lys Phe Ser Pro
 195 200 205
 Gln Trp Ser His His Gly Lys Ile Val Thr Cys Gln Leu Gln Asp Ala
 210 215 220
 Asp Gly Lys Phe Leu Ser Asn Asp Thr Val Gln Leu Asn Val Lys His
 225 230 235 240
 Thr Pro Lys Leu Glu Ile Lys Val Thr Pro Ser Asp Ala Ile Val Arg
 245 250 255
 Glu Gly Asp Ser Val Thr Met Thr Cys Glu Val Ser Ser Ser Asn Pro
 260 265 270
 Glu Tyr Thr Thr Val Ser Trp Leu Lys Asp Gly Thr Ser Leu Lys Lys
 275 280 285
 Gln Asn Thr Phe Thr Leu Asn Leu Arg Glu Val Thr Lys Asp Gln Ser
 290 295 300
 Gly Lys Tyr Cys Cys Gln Val Ser Asn Asp Val Gly Pro Gly Arg Ser
 305 310 315 320
 Glu Glu Val Phe Leu Gln Val Gln Tyr Ala Pro Glu Pro Ser Thr Val
 325 330 335
 Gln Ile Leu His Ser Pro Ala Val Glu Gly Ser Gln Val Glu Phe Leu
 340 345 350
 Cys Met Ser Leu Ala Asn Pro Leu Pro Thr Asn Tyr Thr Trp Tyr His
 355 360 365
 Asn Gly Lys Glu Met Gln Gly Arg Thr Glu Glu Lys Val His Ile Pro
 370 375 380
 Lys Ile Leu Pro Trp His Ala Gly Thr Tyr Ser Cys Val Ala Glu Asn
 385 390 395 400
 Ile Leu Gly Thr Gly Gln Arg Gly Pro Gly Ala Glu Leu Asp Val Gln
 405 410 415

Tyr Pro Pro Lys Lys Val Thr Thr Val Ile Gln Asn Pro Met Pro Ile
420 425 430
Arg Glu Gly Asp Thr Val Thr Leu Ser Cys Asn Tyr Asn Ser Ser Asn
435 440 445
Pro Ser Val Thr Arg Tyr Glu Trp Lys Pro His Gly Ala Trp Glu Glu
450 455 460
Pro Ser Leu Gly Val Leu Lys Ile Gln Asn Val Gly Trp Asp Asn Thr
465 470 475 480
Thr Ile Ala Cys Ala Arg Cys Asn Ser Trp Cys Ser Trp Ala Ser Pro
485 490 495
Val Ala Leu Asn Val Gln Tyr Ala Pro Arg Asp Val Arg Val Arg Lys
500 505 510
Ile Lys Pro Leu Ser Glu Ile His Ser Gly Asn Ser Val Ser Leu Gln
515 520 525
Cys Asp Phe Ser Ser Ser His Pro Lys Glu Val Gln Phe Phe Trp Glu
530 535 540
Lys Asn Gly Arg Leu Leu Gly Lys Glu Ser Gln Leu Asn Phe Asp Ser
545 550 555 560
Ile Ser Pro Glu Asp Ala Gly Ser Tyr Ser Cys Trp Val Asn Asn Ser
565 570 575
Ile Gly Gln Thr Ala Ser Lys Ala Trp Thr Leu Glu Val Leu Tyr Ala
580 585 590
Pro Arg Arg Leu Arg Val Ser Met Ser Pro Gly Asp Gln Val Met Glu
595 600 605
Gly Lys Ser Ala Thr Leu Thr Cys Glu Ser Asp Ala Asn Pro Pro Val
610 615 620
Ser His Tyr Thr Trp Phe Asp Trp Asn Asn Gln Ser Leu Pro His His
625 630 635 640
Ser Gln Lys Leu Arg Leu Glu Pro Val Lys Val Gln His Ser Gly Ala
645 650 655
Tyr Trp Cys Gln Gly Thr Asn Ser Val Gly Lys Gly Arg Ser Pro Leu
660 665 670
Ser Thr Leu Thr Val Tyr Tyr Ser Pro Glu Thr Ile Gly Arg Arg Val
675 680 685
Ala Val Gly Leu Gly Ser Cys Leu Ala Ile Leu Ile Leu Ala Ile Cys
690 695 700
Gly Leu Lys Leu Gln Arg Arg Trp Lys Arg Thr Gln Ser Gln Gln Gly
705 710 715 720
Leu Gln Glu Asn Ser Ser Gly Gln Ser Phe Phe Val Arg Asn Lys Lys
725 730 735

Val Arg Arg Ala Pro Leu Ser Glu Gly Pro His Ser Leu Gly Cys Tyr
740 745 750

Asn Pro Met Met Glu Asp Gly Ile Ser Tyr Thr Thr Leu Arg Phe Pro
755 760 765

Glu Met Asn Ile Pro Arg Thr Gly Asp Ala Glu Ser Ser Glu Met Gln
770 775 780

Arg Pro Pro Arg Thr Cys Asp Asp Thr Val Thr Tyr Ser Ala Leu His
785 790 795 800

Lys Arg Gln Val Gly Asp Tyr Glu Asn Val Ile Pro Asp Phe Pro Glu
805 810 815

Asp Glu Gly Ile His Tyr Ser Glu Leu Ile Gln Phe Gly Val Gly Glu
820 825 830

Arg Pro Gln Ala Gln Glu Asn Val Asp Tyr Val Ile Leu Lys His
835 840 845

<210> 62
<211> 340
<212> DNA
<213> Homo sapiens

<400> 62
ctgggggggtc cgggaaaggg gttggggccat gagccaggca gctccgaagc agtcactgag 60
gccaggggagc ctgcacccag gtcatggggc gacctggctc tcactcctgg cctgggtgct 120
cacctacaga ccacttcact tcccctgtcc gcagcgtcac tatgtcctca taggtggctg 180
tctgggtcaat gtccaggccc tcgtagggtgt gatcttctc catgccagcc ttgctgtcat 240
ccttgtccag cagcaggaag ataggcacga tgatgaagag gatgatcagc agcgtctgga 300
tcatgatgat accatccttc agcgtgttcc tctgcttcag 340

<210> 63
<211> 79
<212> PRT
<213> Homo sapiens

<400> 63
Leu Lys Gln Arg Asn Thr Leu Lys Asp Gly Ile Ile Met Ile Gln Thr
1 5 10 15

Leu Leu Ile Ile Leu Phe Ile Ile Val Pro Ile Phe Leu Leu Leu Asp
20 25 30

Lys Asp Asp Ser Lys Ala Gly Met Glu Glu Asp His Thr Tyr Glu Gly
35 40 45

Leu Asp Ile Asp Gln Thr Ala Thr Tyr Glu Asp Ile Val Thr Leu Arg
50 55 60

Thr Gly Glu Val Lys Trp Ser Val Gly Glu His Pro Gly Gln Glu
65 70 75

<210> 64
 <211> 340
 <212> DNA
 <213> Homo sapiens

<400> 64
 ctgggggggtc cgggaaagggt gttggggccat gagccaggga gctccgaagc agtcactgag 60
 gccaggggagc ctgcacccag gtcattggggc gacctggctc tcaactcctgg cctgggtgct 120
 cacctacaga ccacttctact tcccctgtcc gcagcgtcac tatgtcctca taggtggctg 180
 tctgggtcaat gtccaggccc tcgtagggtgt gatcttctct catgccagcc ttgctgtcat 240
 ccttgtccag cagcaggaag ataggcacga tgatgaagag gatgatcagc agcgtctgga 300
 tcatgatgat accatccttc agcgtgttcc tctgcttcag 340

<210> 65
 <211> 1226
 <212> DNA
 <213> Homo sapiens

<400> 65
 ccacgcgtcc gccacgcgt ccgcagagcg gtgaccatgg ccaggctggc gttgtctcct 60
 gtgcccagcc actggatggt ggcgttgctg ctgctgctct cagctgagcc agtaccagca 120
 gccagatcgg aggaccggta ccggaatccc aaaggtagtg cttgttcgcg gatctggcag 180
 agcccacgtt tcatagccag gaaacggggc ttcacgggtga aaatgcactg ctacatgaac 240
 agcgctccg gcaatgtgag ctggctctgg aagcaggaga tggacgagaa tccccagcag 300
 ctgaagctgg aaaagggccg catggaagag tcccagaacg aatctctcgc caccctcacc 360
 atccaaggca tccggtttga ggacaatggc atctacttct gccagcagaa gtgcaacaac 420
 acctcgagg tctaccaggg ctgcggcaca gagctgagag tcatgggatt cagcaccttg 480
 gcacagctga agcagaggaa cacgctgaag gatggtatca tcatgatcca gacgctgctg 540
 atcatcctct tcatcatcgt gcctatcttc ctgctgctgg acaaggatga cagcaaggct 600
 ggcatggagg aagatcacac ctacgagggc ctggacattg accagacagc cacctatgag 660
 gacatagtga cgctgcggac aggggaagtg aagtggctct taggtgagca cccaggccag 720
 gagtgagagc caggctcgccc catgacctgg gtgcaggctc cctggcctca gtgactgctt 780
 cggagctgcc tggctcatgg cccaaccctt tccccggacc cccagctgg cctctgaagc 840
 tggcccacca gagctgccat ttgtctccag cccctggctc ccagctcttg ccaaagggcc 900
 tggagtagaa ggacaacagg gcagcaactt ggagggagtt ctctggggat ggacgggacc 960
 cagccttctg ggggtgctat gaggtgatcc gtccccacac atgggatggg ggaggcagag 1020
 actggtccag agcccgcaaa tggactcgga gccgagggcc tcccagcaga gcttggaag 1080
 ggccatggac ccaactgggc cccagaagag ccacaggaac atcattctc tcccgaacc 1140
 actcccacc cagggaggcc ctggcctcca gtgccttccc ccgtggaata aacggtgtgt 1200
 cctgagaaac caaaaaaaaa aaaaaa 1226

<210> 66
 <211> 229
 <212> PRT
 <213> Homo sapiens

<400> 66
 Met Ala Arg Leu Ala Leu Ser Pro Val Pro Ser His Trp Met Val Ala
 1 5 10 15
 Leu Leu Leu Leu Leu Ser Ala Glu Pro Val Pro Ala Ala Arg Ser Glu
 20 25 30
 Asp Arg Tyr Arg Asn Pro Lys Gly Ser Ala Cys Ser Arg Ile Trp Gln
 35 40 45
 Ser Pro Arg Phe Ile Ala Arg Lys Arg Gly Phe Thr Val Lys Met His
 50 55 60

Cys Tyr Met Asn Ser Ala Ser Gly Asn Val Ser Trp Leu Trp Lys Gln
 65 70 75 80
 Glu Met Asp Glu Asn Pro Gln Gln Leu Lys Leu Glu Lys Gly Arg Met
 85 90 95
 Glu Glu Ser Gln Asn Glu Ser Leu Ala Thr Leu Thr Ile Gln Gly Ile
 100 105 110
 Arg Phe Glu Asp Asn Gly Ile Tyr Phe Cys Gln Gln Lys Cys Asn Asn
 115 120 125
 Thr Ser Glu Val Tyr Gln Gly Cys Gly Thr Glu Leu Arg Val Met Gly
 130 135 140
 Phe Ser Thr Leu Ala Gln Leu Lys Gln Arg Asn Thr Leu Lys Asp Gly
 145 150 155 160
 Ile Ile Met Ile Gln Thr Leu Leu Ile Ile Leu Phe Ile Ile Val Pro
 165 170 175
 Ile Phe Leu Leu Leu Asp Lys Asp Asp Ser Lys Ala Gly Met Glu Glu
 180 185 190
 Asp His Thr Tyr Glu Gly Leu Asp Ile Asp Gln Thr Ala Thr Tyr Glu
 195 200 205
 Asp Ile Val Thr Leu Arg Thr Gly Glu Val Lys Trp Ser Val Gly Glu
 210 215 220
 His Pro Gly Gln Glu
 225

<210> 67
 <211> 449
 <212> DNA
 <213> Homo sapiens

<220>
 <221> modified_base
 <222> (16)
 <223> n = g, a, c or t

<400> 67
 aaaattgata acaacnaggg aaaacaaaat aaaattaggg ggcaaagggt aggagtatgg 60
 ggggagggga gagcaaacct atcgaatata tcttagaatt ttgctcagaa atcactgctg 120
 cctctcaagt gttgcattgt ccctgcctaa accaagaagg ctaaacaag cccctcctgt 180
 ttgaattcct aaggtaagaa atttctaagc taagaaaaca ctattgccta aaaccaatga 240
 tagtggagct catttacaaa taggcatgcc tcacacacac agtccaaagg caagacactg 300
 gctttgaaat taggctcatg atgtgattcc tattatatgt acctgatttt tttaggcccc 360
 aggtatgtgg accagagtta atgtcatgac tcttcaaaga tatgatgaaa agttgcccta 420
 gaaatctaga gatgcatgtt tatttaatt 449

<210> 68
 <211> 2359
 <212> DNA
 <213> Homo sapiens

```

<400> 68
ctttcaagaa aatacatctg tgctgtattt tccccctccc tcaggccatg atctctgctg 60
ttttccttac taactggcat gtcagtagaa gactgattgt gaagctgctc cggaagggtc 120
ttatgctaac ctctgttgct tgatgacatg tcctcaggac tctgatatta aaactcaatc 180
cttagataac aggtagcttt atcatggaag taggtagcaa tttggaatta gaccattctt 240
agttatTTTT ttcttaataa attgatacat gcactttaaa aaatatTTTT gttatTTTTg 300
gaagaaaaac tcagactttt aaaaaagtgt atattgtccc attataaatat gtatatggaa 360
gagtgaatac tgaacgctgt cttatattaa gcagtagaat taggtattat cataaaaaagt 420
cttaatctgt agggaaatat agtttatgtt tatgagtcct gctcagtcct tctttgagag 480
aattagttga aaccacagact ctaaagtctg cttttatatt tgtttggtta gaccacttat 540
ctgcagaagg ttgcctttta accccagtggt ttctaagggtg tggaattgag tgaccctaata 600
atttacataa gagacttggt ttagtggagc ataagggtgg ggcataagtt acaccgtttt 660
gtgtgctttg agaactgtct tttaaaattg atcacaaaga gggaaaacaa aataaaaatta 720
ggggggcaaa ggtaggagta tggggggagg ggagagcaaa cctatcgaat atatcttaga 780
atTTTgtctc gaaatcactg ctgcctctca agtggttgc tgtccctgcc taaaccaaga 840
aggctaaaca aagcccctcc tgtttgaatt ctttaaggtaa gaaatttcta agctaagaaa 900
acactattgc ctaaaaccaa tgatagtggg gctcatttac aaataggcat gcctcacaca 960
cacagtccaa aggcgaagaca ctggccttga aattaggctc atgatgtgat tcctattata 1020
tgtacctgat ttttttaggc cccaggtatg tggaccagag ttaatgtcat gactcttcaa 1080
agatatgatg aaaagtgtgc ctagaaatct agagatgcat gtttatTTTaa ttccatagtt 1140
taaaaaaaat tttaagcagg tagttgtggc ttatctgggg gcaaaaataa atatgtgaaa 1200
ttgcttccag aggacaaagt atattttcta aagtcctgaa ataggatcat gaacccttct 1260
gaagtTTTTg tttgaaatat tatagtatat gatattacca aagagccctt aattcagagt 1320
ttaaggggct ctcttcctga actctcttca tcaactcaggg ttgaatgtgt aatgttctct 1380
gctattgatt gttattgttg attcttagga tcaggccaag aatcatctgg aaaacattat 1440
cttaattccg tctctcatat cctaaacagt acattttact aagaaattcc atatgaaaaa 1500
ctccactcat gtctcctgag attatcctgt aagtgaagta gctttcattt aaccaagcta 1560
aattatttcc atttagccat gttaaagaga agccaagtct agagaaagca atcctgtaac 1620
ccatgaatct ggtgtaccca ttttccttta acgtaacggg aagtgttttg aaattcccag 1680
aagagagctg ttttgtaatc aaagtgatgg attataagaa agccagactt tggaaaagga 1740
taattggaat aaaggaggt gcttgaagat tttccaaact actttatgtc atttagcttc 1800
tattttctga agggctttct ttgggtccat gtactcagat cagtcagttg actgaaagat 1860
gatcatgttt tcttcgtaaa gatttaagca attggcaact acaaagacat tattttctta 1920
ctgttctata tcatgtactg ttgctgacat tacaaaaagg gtctggaagg gaaaccgtgt 1980
cactgtttta tcttttttct ttaaaatata aaagtatccc aactaatcat ttattatggt 2040
cagcttggtt tacatgtccc ctatgatgag aaatgctatc aacatctgtg atttctaaga 2100
gtcttaccaa attgttactt taattcttgt gtccctgctga gtgggttttct ttttaaaata 2160
ccatttttat caccctgtgg cactgggtgt gttactgcga ttacactgat gattctgagc 2220
tgtgtctctt caagtagctc agttcttgcg ttttatatta ggtaacagtt ttgtgatgct 2280
tttgtgcatt ctttgtcatc tcttctgagt tttcgaatct gtcataaata aactttttca 2340
ctatgcacct ggtaaaaaa 2359

```

```

<210> 69
<211> 240
<212> DNA
<213> Homo sapiens

```

```

<400> 69
cctaagccgc ctaaggggct gcctcggctg tccatcagtt acctcgtttc ctgagcagag 60
taattgggtg agattgttca tggaggcatt gctggctctc tagtcctgga acctacagtt 120
gggtccaattc attatgccaa agggctccgtc taggaggttc ttgttccaag tattgagatt 180
cccagagagaa gtaggtcccc ttagatagaa gcagagtttc tcagaggtat ttagcagcag 240

```

```

<210> 70
<211> 980
<212> DNA
<213> Homo sapiens

```

```

<400> 70
gccgctgccg ctccaggaga caggttccca tgcaggaatg aaagacatgg aagggaaagag 60
ggggggccagc tccctgagtc ctgtgtccac cagctgctgc taaatacctc tgagaaaactc 120
tgctttctatc taagggggacc tactttctctc gggaatctca atacttggaa caagaacctc 180
ctagacggac ccttttggcat aatgaattgg accaactgta gggtccagga ctagagagcc 240
agcaatgcct ccatgaacaa tctcacccaa ttactctgct caggaaacga ggtaactgat 300
ggacagccga ggcagcccct taggcggctt aggcctcccc tgtggagcat ccctgaggcg 360
gactccggcc agcccagtg atgcgatcca aagagcactc ccgggtagga aattgccccg 420
gtggaatgcc tcaccagagc agcgtgtagc agttccctgt ggaggattaa cacagtggct 480
gaacaccggg aaggaactgg cacttggagt cgggacatct gaaacttgta gactgggagc 540
tgtacatgga tgggagcagc ttcaccaacc cctgcaaagt gactctgaag aagacgacaa 600
gccctgctcc agtcacaccc ggaagctgac tgggtccacgc acagctgaag catgaggaaa 660
ctcatcgccg gactaatttt ccttaaaatt tagacttgca cagtaaggac ttcaactgac 720
cttcctcaga ctgagaactg tttccagtat atacatcaag tcaactgaggt aggacaaaag 780
attgctacat tcctattatt ttaaggttac atttttgggg acccctcttt cttctgttct 840
agctattacc tttcttgtgt cacctagaaa aggaccagtc cttaattgta ttttaaaaac 900
tgtgatcatg ggaagcttta aattggttca ataacacgca tcaagttggt tatttcctgg 960
gctacatacc ttggatagat                                     980

```

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<210> 71
<211> 118
<212> PRT
<213> Homo sapiens

```

```

<400> 71
Met Asp Ser Arg Gly Ser Pro Leu Gly Gly Leu Gly Leu Pro Cys Gly
  1              5              10              15

Ala Ser Leu Arg Arg Thr Pro Ala Ser Pro Ser Asp Ala Ile Gln Arg
      20              25              30

Ala Leu Pro Gly Arg Lys Leu Pro Arg Trp Asn Ala Ser Pro Glu Gln
      35              40              45

Arg Val Ala Val Pro Cys Gly Gly Leu Thr Gln Trp Leu Asn Thr Gly
      50              55              60

Lys Glu Leu Ala Leu Gly Val Arg Thr Ser Glu Thr Cys Arg Leu Gly
      65              70              75              80

Ala Val His Gly Trp Glu Gln Leu His Gln Pro Leu Gln Ser Asp Ser
      85              90              95

Glu Glu Asp Asp Lys Pro Cys Ser Ser His Thr Arg Lys Leu Thr Gly
      100              105              110

Pro Arg Thr Ala Glu Ala
      115

```

```

<210> 72
<211> 531
<212> DNA
<213> Homo sapiens

```

```

<220>
<221> modified_base
<222> (519)
<223> n = g, a, c or t

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```

<400> 72
aaaaaggtaa ttttcagcat tttggcacct aaaagggaaa ctttcatctg cttacacagg 60
ccagaagcaa agacaaagat tgcattgtgt tcttacagat gacttaaata atctctttga 120
tgataaaaaa attttttaagc cgtgaaaagt atgagatatt ctgggtaagc ctgattatca 180
aagaatacca caaatagctt tggagatcgt gtattgtttg tcaactgagtc aaagagatct 240
gtgggattgt gaggattctt ggggtggagg gtgactaatc ctgcacgtcc ctttgtgaag 300
actccagtaa gtactcgcac aacgtacatg tgctttctcc cattgctgtc tggcttggag 360
taggtgtcct tggcagaata actggcatcc acagcaaaat aggttccttt tccataggat 420
acagcatttt tcccacacaa cttctattaa agccgtgctg attgacatat ggcactgagt 480
ctgcatctgt cccatggaag aggagtctct cattattent atggtcattc t 531

```

```

<210> 73
<211> 1956
<212> DNA
<213> Homo sapiens

```

```

<400> 73
attgttatca actctttgat atctgatgat caatgctcca aagaattgga ttaatatattt 60
tacacaatat tggtgtagtc agtaactggt tctattttcca ggcattttta gatgaattca 120
ctaactgggc aagaataaat cccaacaagg ccaggattcc catggcagga gatacccaag 180
gtgtggtcgg gactgtctct aagccttggt tcacagcata tgaaatgaaa atcgggtgcaa 240
ttacttttca ggttgctact ggagatatag ccactgaaca ggtagatggt attgtaaact 300
caacagcaag gacatttaac cggaaatcag gtgtgtcaag agctatttta gaagggtgctg 360
gacaagctgt ggaaagtga tgtgctgtac tagctgcaca gcctcacaga gattttataa 420
ttacaccagg tggatgctta aagtgcacaaa taataattca tgttcctggg ggaaaagatg 480
tcaggaaaac ggtcaccagt gttctagaag agtgtgaaca gaggaagtac acatcggttt 540
cccttccagc cattggaaca ggaaatgccg gaaaaaaccc tatcacagtt gctgataaca 600
taatcgatgc tattgtagac ttctcatcac aacattccac cccatcatta aaaacagtta 660
aagttgtcat ttttcaacct gagctgctaa atatattcta cgacagcatg aaaaaagag 720
acctctctgc atcactgaac tttcagttca cattctccat gactacatgt aatcttctg 780
aacactggac tgacatgaat catcagctgt tttgcatggg ccagctagag ccaggacaat 840
cagaatataa taccataaag gacaagttca cccgaacttg ttcttcttac gcaatagaga 900
agattgagag gatacagaat gcatttctct ggcagagcta ccaggtaaaag aaaaggcaaa 960
tggatatcaa gaatgaccat aagaataatg agagactcct cttccatggg acagatgcag 1020
actcagtgcc atatgtcaat cagcacggct ttaatagaag ttgtgctggg aaaaatgctg 1080
tatectatgg aaaaggaacc tattttgctg tggatgccag ttattctgcc aaggacacct 1140
actccaagcc agacagcaat gggagaaaag acatgtacgt tgtgcgagta cttactggag 1200
tcttcacaaa gggacgtgca ggattagtca cccctccacc caagaatcct cacaatccca 1260
cagatctctt tgactcagtg acaaacata cagcatctcc aaagctattt gtggtattct 1320
ttgataatca ggcttaccca gaatatctca taactttcac ggcttaaaaa tattttttatc 1380
atcaaagaga tgatttaagt catctgtaag aacaacatgc aatctttgtc tttgcttctg 1440
gcctgtgtaa gcagatgaaa gtttcccttt taggtgccaa aatgctgaaa attacctttt 1500
taaagtgtc tattgctgct attttagtca tacctttttt tctcagcaaa ttgatgggtg 1560
gaagctgaga aatgtatggt aaatgtcaca gagctacaac cattcacaga caccaaactc 1620
ctaggagaat aaaaagcaca ttattctttt tctatcagaa aaaaacaaga tgcacacct 1680
taaaaccaag atgacattgt tcttcttgga acatgttaag acatcgaatg gtggcggggt 1740
aaactgtact gcttaagtgg agcggctacc gttatgcac tatcacagtt ggggattttg 1800
ccttattaag gaaaacttgt caatagttca gctgaaatga ctgaatcaca gaatattaac 1860
tctgttatgg aacaaatcat aacagatttt acctgtttac atttcaggta aaaatgtatc 1920
gcattgttat ctaatatataa aaaattaccc ccaatt 1956

```

```

<210> 74
<211> 444
<212> PRT
<213> Homo sapiens

```

```

<400> 74
Met Leu Gln Arg Ile Gly Leu Ile Phe Leu His Asn Ile Val Val Val
1 5 10 15

```

Ser	Asn	Cys	Phe	Tyr	Phe	Gln	Ala	Phe	Leu	Asp	Glu	Phe	Thr	Asn	Trp
			20					25						30	
Ser	Arg	Ile	Asn	Pro	Asn	Lys	Ala	Arg	Ile	Pro	Met	Ala	Gly	Asp	Thr
		35					40					45			
Gln	Gly	Val	Val	Gly	Thr	Val	Ser	Lys	Pro	Cys	Phe	Thr	Ala	Tyr	Glu
	50					55					60				
Met	Lys	Ile	Gly	Ala	Ile	Thr	Phe	Gln	Val	Ala	Thr	Gly	Asp	Ile	Ala
65					70					75					80
Thr	Glu	Gln	Val	Asp	Val	Ile	Val	Asn	Ser	Thr	Ala	Arg	Thr	Phe	Asn
				85					90					95	
Arg	Lys	Ser	Gly	Val	Ser	Arg	Ala	Ile	Leu	Glu	Gly	Ala	Gly	Gln	Ala
			100					105					110		
Val	Glu	Ser	Glu	Cys	Ala	Val	Leu	Ala	Ala	Gln	Pro	His	Arg	Asp	Phe
		115					120					125			
Ile	Ile	Thr	Pro	Gly	Gly	Cys	Leu	Lys	Cys	Lys	Ile	Ile	Ile	His	Val
	130					135					140				
Pro	Gly	Gly	Lys	Asp	Val	Arg	Lys	Thr	Val	Thr	Ser	Val	Leu	Glu	Glu
145					150					155					160
Cys	Glu	Gln	Arg	Lys	Tyr	Thr	Ser	Val	Ser	Leu	Pro	Ala	Ile	Gly	Thr
				165					170					175	
Gly	Asn	Ala	Gly	Lys	Asn	Pro	Ile	Thr	Val	Ala	Asp	Asn	Ile	Ile	Asp
			180					185					190		
Ala	Ile	Val	Asp	Phe	Ser	Ser	Gln	His	Ser	Thr	Pro	Ser	Leu	Lys	Thr
		195					200					205			
Val	Lys	Val	Val	Ile	Phe	Gln	Pro	Glu	Leu	Leu	Asn	Ile	Phe	Tyr	Asp
	210					215					220				
Ser	Met	Lys	Lys	Arg	Asp	Leu	Ser	Ala	Ser	Leu	Asn	Phe	Gln	Ser	Thr
225					230					235					240
Phe	Ser	Met	Thr	Thr	Cys	Asn	Leu	Pro	Glu	His	Trp	Thr	Asp	Met	Asn
			245						250					255	
His	Gln	Leu	Phe	Cys	Met	Val	Gln	Leu	Glu	Pro	Gly	Gln	Ser	Glu	Tyr
			260					265					270		
Asn	Thr	Ile	Lys	Asp	Lys	Phe	Thr	Arg	Thr	Cys	Ser	Ser	Tyr	Ala	Ile
		275					280					285			
Glu	Lys	Ile	Glu	Arg	Ile	Gln	Asn	Ala	Phe	Leu	Trp	Gln	Ser	Tyr	Gln
	290					295					300				
Val	Lys	Lys	Arg	Gln	Met	Asp	Ile	Lys	Asn	Asp	His	Lys	Asn	Asn	Glu
305					310					315					320
Arg	Leu	Leu	Phe	His	Gly	Thr	Asp	Ala	Asp	Ser	Val	Pro	Tyr	Val	Asn
				325					330					335	

Gln His Gly Phe Asn Arg Ser Cys Ala Gly Lys Asn Ala Val Ser Tyr
340 345 350

Gly Lys Gly Thr Tyr Phe Ala Val Asp Ala Ser Tyr Ser Ala Lys Asp
355 360 365

Thr Tyr Ser Lys Pro Asp Ser Asn Gly Arg Lys His Met Tyr Val Val
370 375 380

Arg Val Leu Thr Gly Val Phe Thr Lys Gly Arg Ala Gly Leu Val Thr
385 390 395 400

Pro Pro Pro Lys Asn Pro His Asn Pro Thr Asp Leu Phe Asp Ser Val
405 410 415

Thr Asn Asn Thr Arg Ser Pro Lys Leu Phe Val Val Phe Phe Asp Asn
420 425 430

Gln Ala Tyr Pro Glu Tyr Leu Ile Thr Phe Thr Ala
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<210> 75
<211> 449
<212> DNA
<213> Homo sapiens

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caggagaaca gagaaaaaac cagcctgtct ccaaactggc ccgtctcagg gactgggggc 180
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aagtgccttc cacctatcat gttaccttct aactactccc ttgggttgat acaggtatta 360
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aacagctctt ccttacagaa ggatcccaa 449

<210> 76
<211> 79
<212> PRT
<213> Homo sapiens

<400> 76
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Thr Gly Trp Phe Phe Leu Cys Ser Pro Glu Ser Pro Ser Asp Glu Lys
35 40 45

Gly Gly Leu Glu Thr Glu Cys Gln Lys Pro Ile Lys Gly Thr Ala Leu
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His Phe Arg Glu Gly Ala Gly Leu Glu Lys Asn Gln Arg Ser Ser
65 70 75

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 <213> Homo sapiens

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<210> 78
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 <213> Homo sapiens

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<210> 79
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 <212> DNA
 <213> Homo sapiens

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<210> 80
<211> 755
<212> PRT
<213> Homo sapiens

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Glu Asn Phe Ser Phe Arg His Leu Glu Leu Leu Asn Leu Thr Ser Tyr
          35             40             45

Lys Cys Lys Leu Leu Ile Leu Ser Asn Ser Leu Leu Arg Asp Leu Thr
          50             55             60

Pro Lys Lys Cys Gln Phe Leu Glu Lys Ile Leu His Ser Pro Lys Ser
          65             70             75             80

Val Val Thr Leu Leu Cys Gly Val Lys Ser Ser Asp Gln Leu Tyr Glu
          85             90             95

Leu Leu Asn Ile Ser Gln Ser Arg Trp Glu Ile Ser Thr Glu Gln Glu
          100            105            110

Pro Glu Asp Tyr Ile Ser Val Ile Gln Ser Ile Ile Phe Lys Asp Ser
          115            120            125

Glu Asp Tyr Phe Glu Val Asn Ile Pro Thr Asp Leu Arg Ala Lys His
          130            135            140

Ser Gly Glu Ile Ser Glu Arg Lys Glu Ile Glu Glu Leu Ser Glu Ala
          145            150            155            160

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Ser	Arg	Asn	Thr	Ile	Pro	Leu	Ala	Val	Val	Leu	Pro	Thr	Glu	Ile	Pro	165	170	175
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Gly	Asp	Thr	Val	Glu	Val	Glu	Phe	Thr	Ser	Ser	Asn	Lys	Arg	Ile	Arg	195	200	205
Thr	Arg	Pro	Ala	Leu	Trp	Asn	Lys	Lys	Val	Trp	Cys	Met	Lys	Ala	Leu	210	215	220
Glu	Phe	Pro	Ala	Gly	Ser	Val	His	Val	Asn	Val	Tyr	Cys	Asp	Gly	Ile	225	230	235
Val	Lys	Ala	Thr	Thr	Lys	Ile	Lys	Tyr	Tyr	Pro	Thr	Ala	Lys	Ala	Lys	245	250	255
Glu	Cys	Leu	Phe	Arg	Met	Ala	Asp	Ser	Gly	Glu	Ser	Leu	Cys	Gln	Asn	260	265	270
Ser	Ile	Glu	Glu	Leu	Asp	Gly	Val	Leu	Thr	Ser	Ile	Phe	Lys	His	Glu	275	280	285
Ile	Pro	Tyr	Tyr	Glu	Phe	Gln	Ser	Leu	Gln	Thr	Glu	Ile	Cys	Ser	Gln	290	295	300
Asn	Lys	Tyr	Thr	His	Phe	Lys	Glu	Leu	Pro	Thr	Leu	Leu	His	Cys	Ala	305	310	315
Ala	Lys	Phe	Gly	Leu	Lys	Asn	Leu	Ala	Ile	His	Leu	Leu	Gln	Cys	Ser	325	330	335
Gly	Ala	Thr	Trp	Ala	Ser	Lys	Met	Lys	Asn	Met	Glu	Gly	Ser	Asp	Pro	340	345	350
Ala	His	Ile	Ala	Glu	Arg	His	Gly	His	Lys	Glu	Leu	Lys	Lys	Ile	Phe	355	360	365
Glu	Asp	Phe	Ser	Ile	Gln	Glu	Ile	Asp	Ile	Asn	Asn	Glu	Gln	Glu	Asn	370	375	380
Asp	Tyr	Glu	Glu	Asp	Ile	Ala	Ser	Phe	Ser	Thr	Tyr	Ile	Pro	Ser	Thr	385	390	395
Gln	Asn	Pro	Ala	Phe	His	His	Glu	Ser	Arg	Lys	Thr	Tyr	Gly	Gln	Ser	405	410	415
Ala	Asp	Gly	Ala	Glu	Ala	Asn	Glu	Met	Glu	Gly	Glu	Gly	Lys	Gln	Asn	420	425	430
Gly	Ser	Gly	Met	Glu	Thr	Lys	His	Ser	Pro	Leu	Glu	Val	Gly	Ser	Glu	435	440	445
Ser	Ser	Glu	Asp	Gln	Tyr	Asp	Asp	Leu	Tyr	Val	Phe	Ile	Pro	Gly	Ala	450	455	460
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<400> 81
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<210> 82
<211> 816
<212> PRT
<213> Homo sapiens

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			20					25					30		
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		35					40					45			
Cys	Gly	Pro	Ala	Pro	Pro	Gly	Asn	Thr	Lys	Asp	Ile	Ile	Met	Ile	Tyr
	50					55					60				
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Ile	Ser	Gln	Ser	Arg	Trp	Glu	Ile	Ser	Thr	Glu	Gln	Glu	Pro	Glu	Asp
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Pro	Gly	Glu	Ile	Phe	Ile	Ile	Leu	Arg	Asp	Glu	Val	Ile	Gly	Asp	Thr
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Phe Leu His Val Val Lys Arg Glu Ala Ile Leu Leu Tyr Arg Leu Glu
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Asn Phe Ser Phe Arg His Leu Glu Leu Leu Asn Leu Thr Ser Tyr Lys
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Cys Lys Leu Leu Ile Leu Ser Asn Ser Leu Leu Arg Asp Leu Thr Pro
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 <212> DNA
 <213> Homo sapiens

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<211> 6400

<212> DNA

<213> Homo sapiens

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<212> DNA

<213> Homo sapiens

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<210> 96
<211> 1632
<212> DNA
<213> Homo sapiens

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<220>
<221> modified_base
<222> (1)..(1632)
<223> n = g, a, c or t

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<400> 96
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tctttatgca ttttttttaa tttaaaatgt ggggtaggga tctaactttt ttcaaacaca 180
tataaatgtg cactactatt tatttaaata gtctgttctt tcccttttta ttattatgct 240
atcttatctc acttgaattc aacctaagcc tgttttagac tccaactaat actacagatc 300
ttcctaccac tcttcccttt gcataattaa cttcaagcac attagcctcc gggttcctca 360
agcacaccaa atttagtccc agctcaggaa ctctgtactt tctatttcca tgctttaatg 420
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ctgtttctgg tccatggaca tttttatctt ctttttatag aacaaacaca gcttttttac 540
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attaattaaa attatttgca taaaatgctt aagacagggc ctgaaatgac attgagtcct 1560
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aaaaaaaaac ca 1632

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<210> 97
<211> 2378
<212> DNA
<213> Homo sapiens

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<400> 97
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gccagtccag ggagaggaca gagccaatgg actggggtgt actgtaacag ccctgctggc 180
gagagggacc agggcaccgt cctccagga gcccatgctg caagtcgggc cagaggtgcc 240
cctgaacctg aaggccaatg agaccaaga caggccaagt gggttgtgag acccctgagg 300
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cccatggcct gctgcgccc atggttgcac cgcaaagcgg ggacccagac cctggagcct 420
cagttggaag cagccgatcc agcctgcgga gcctgtgggg caggtaagg gcaagagata 480
tgtgggggtc ctgcagcaga gctgggaaag ggtgaccaag gggggacaag ccagaggagt 540

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<210> 98
 <211> 313
 <212> DNA
 <213> Homo sapiens

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 <223> n = g, a, c or t

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caataaatta	tagtaaatta
gctgtatatt	tcctgggtatg
caaaactaat	tgtgggtttt
ataccagatg	tagtaacagt
ttctatgttg	ngtatttcta
atgtaatatata	atgtaatatata
gaaaaaacat	attaatatgt
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ggtttgggtc	tgggaggttg
tantgtttga	attgtttaga
	313

<210> 99
 <211> 317
 <212> DNA
 <213> Homo sapiens

<400> 99	
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agtcctatggc	tgaggagaag
gtcgggttca	atgaaatgga
gccgcttcta	gtgggtgcccc
aggaagcgag	aggaagagga
	180

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<210> 100

<211> 1968

<212> DNA

<213> Homo sapiens

<400> 100

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cagagagatt atgccaaggg ctttgggtggc cagtatggaa tccagaagga ccgagtggat 660
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cccatagaag ccgcttctag tgggtgccgt gggctgaagg cgaaatttga gtccatggct 780
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ccagtttggt taccggggaa agtacgtcta gattgtgtgg tttgcctcat tgtgctattt 1860
gcccactttc cttccctgaa gaaatatctg tgaaccttct ttctgttcag tcctaaaatt 1920
cgaaataaag tgagactatg gttcacctgt aaaaaaaaaa aaggaatt 1968

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<210> 101

<211> 486

<212> PRT

<213> Homo sapiens

<400> 101

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          20                               25                               30

Glu Lys Glu Gln Arg Trp Gly Ala Lys Thr Ile Glu Gly Ser Gly Arg
  35                               40                               45

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96

Glu Pro Glu Pro Glu Pro Glu Asn Asp Tyr Glu Asp Val Glu Glu Met
 370 375 380
 Asp Arg His Glu Gln Glu Asp Glu Pro Glu Gly Asp Tyr Glu Glu Val
 385 390 395 400
 Leu Glu Pro Glu Asp Ser Ser Phe Ser Ser Ala Leu Ala Gly Ser Ser
 405 410 415
 Gly Cys Pro Ala Gly Ala Gly Ala Gly Ala Val Ala Leu Gly Ile Ser
 420 425 430
 Ala Val Ala Leu Tyr Asp Tyr Gln Gly Glu Gly Ser Asp Glu Leu Ser
 435 440 445
 Phe Asp Pro Asp Asp Val Ile Thr Asp Ile Glu Met Val Asp Glu Gly
 450 455 460
 Trp Trp Arg Gly Arg Cys His Gly His Phe Gly Leu Phe Pro Ala Asn
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 Tyr Val Lys Leu Leu Glu
 485

<210> 102
 <211> 96
 <212> DNA
 <213> Homo sapiens

<400> 102
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<210> 103
 <211> 349
 <212> DNA
 <213> Homo sapiens

<400> 103
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<210> 104
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 <212> PRT
 <213> Homo sapiens

<400> 104
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 20 25 30

Asp Ser Gly Leu Ala Gln Arg Arg Phe Ile Arg Gly Trp Gly Leu Cys
 35 40 45
 Ile Phe Leu Pro Phe Val Leu Ser Gln Leu Glu Pro Gly Cys Lys Lys
 50 55 60
 Glu Leu Pro Glu Phe Glu Gly Asp Val Leu Ala Val Gly Ser Gln Ala
 65 70 75 80
 Leu Thr Thr Glu Gly Ile Tyr Glu Asp Val Ile Arg Gly Cys Leu Leu
 85 90 95
 Gln Arg Ile Asp Gln Glu Leu Lys Lys Thr Leu Gly Ala Asn Asp Val
 100 105 110
 Ser Cys Thr Leu
 115

<210> 105
 <211> 311
 <212> DNA
 <213> Homo sapiens

 <220>
 <221> modified_base
 <222> (1)..(311)
 <223> n = g, a, c or t

<400> 105
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 aaaaaaaaaa a 311

<210> 106
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 <212> DNA
 <213> Homo sapiens

<400> 106
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<210> 107

<211> 579

<212> PRT

<213> Homo sapiens

<400> 107

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```

```

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          20                      25          30

```

```

His Leu Arg Gly Gln Val Asp Thr Leu Leu Arg Asn Phe Leu Pro Cys
      35                      40          45

```

```

Tyr Arg Gly Gln Leu Ala Ala Ser Val Leu Arg Gln Ile Ser Arg Glu
      50                      55          60

```

```

Leu Gly Pro Gln Glu Pro Thr Gly Ser Gln Leu Leu Arg Ser Lys Lys
      65                      70          75          80

```

```

Leu Pro Arg Val Arg Glu His Arg Gly Pro Leu Thr Gln Leu Arg Gly
          85                      90          95

```

```

His Pro Pro Arg Trp Gln Pro Ile Phe Cys Val Leu Arg Gly Asp Gly
      100                      105          110

```

```

Arg Leu Glu Trp Phe Ser His Lys Glu Glu Tyr Glu Asn Gly Gly His
      115                      120          125

```

```

Cys Leu Gly Ser Thr Ala Leu Thr Gly Tyr Thr Leu Leu Thr Ser Gln
      130                      135          140

```

```

Arg Glu Tyr Leu Arg Leu Leu Asp Ala Leu Cys Pro Glu Ser Leu Gly
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```

```

Asp His Thr Gln Glu Glu Pro Asp Ser Leu Leu Glu Val Pro Val Ser
          165                      170          175

```

```

Phe Pro Leu Phe Leu Gln His Pro Phe Arg Arg His Leu Cys Phe Ser
      180                      185          190

```

```

Ala Ala Thr Arg Glu Ala Gln His Ala Trp Arg Leu Ala Leu Gln Gly
      195                      200          205

```

```

Gly Ile Arg Leu Gln Gly Thr Val Leu Gln Arg Ser Gln Ala Pro Ala
      210                      215          220

```

```

Ala Arg Ala Phe Leu Asp Ala Val Arg Leu Tyr Arg Gln His Gln Gly
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His Phe Gly Asp Asp Asp Val Thr Leu Gly Ser Asp Ala Glu Val Leu
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 Glu Lys Thr Ile Arg Pro Asp Val Asp Gln Leu Leu Arg Gln Arg Ala
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 Arg Val Ala Gly Arg Leu Arg Thr Asp Ile Arg Gly Pro Leu Glu Ser
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 Cys Leu Arg Arg Glu Val Asp Pro Gln Leu Pro Arg Val Val Gln Thr
 355 360 365
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 Ala Gln Gly Met Asp Arg Leu Ser His Arg Leu Arg Gln Ser Pro Ser
 385 390 395 400
 Gly Thr Arg Leu Arg Arg Glu Val Tyr Ser Phe Gly Glu Met Pro Trp
 405 410 415
 Asp Leu Ala Leu Met Gln Thr Cys Tyr Arg Glu Ala Glu Arg Ser Arg
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 Gly Arg Leu Gly Gln Leu Ala Ala Pro Phe Gly Phe Leu Gly Met Gln
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 Ser Leu Val Phe Gly Ala Gln Asp Leu Ala Gln Gln Leu Met Ala Asp
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 Ala Val Ala Thr Phe Leu Gln Leu Ala Asp Gln Cys Leu Thr Thr Ala
 465 470 475 480
 Leu Asn Cys Asp Gln Ala Ala Gln Arg Leu Glu Arg Val Arg Gly Arg
 485 490 495
 Val Leu Lys Lys Phe Lys Ser Asp Ser Gly Leu Ala Gln Arg Arg Phe
 500 505 510
 Ile Arg Gly Trp Gly Leu Cys Ile Phe Leu Pro Phe Val Leu Ser Gln
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 Leu Glu Pro Gly Cys Lys Lys Thr Glu Ser Arg Ser Val Ala Gln Ala
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His Pro Leu

<210> 108
<211> 2917
<212> DNA
<213> Homo sapiens

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 <211> 83
 <212> PRT
 <213> Homo sapiens

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 35 40 45
 Asn Phe Val Phe Leu Val Glu Thr Gly Phe Cys His Val Ser Gln Ala
 50 55 60
 Gly Leu Glu Leu Leu Thr Ser Ser Asp Pro Pro Pro Arg Pro Pro Lys
 65 70 75 80
 Val Leu Arg

<210> 110
 <211> 509
 <212> DNA
 <213> Homo sapiens

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 <222> (467)
 <223> n = g, a, c or t

<400> 110
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<210> 111
 <211> 525
 <212> DNA
 <213> Homo sapiens

<400> 111
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<210> 112
 <211> 183
 <212> DNA
 <213> Homo sapiens

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 <222> (1)..(183)
 <223> n = g, a, c or t

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 ctt 183

<210> 113
 <211> 1750
 <212> DNA
 <213> Homo sapiens

<400> 113
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<210> 114
 <211> 547
 <212> PRT
 <213> Homo sapiens

<400> 114

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			20					25					30		
Leu	Leu	Arg	Val	Glu	Pro	Gln	Asn	Pro	Val	Leu	Ser	Ala	Gly	Gly	Ser
		35					40					45			
Leu	Phe	Val	Asn	Cys	Ser	Thr	Asp	Cys	Pro	Ser	Ser	Glu	Lys	Ile	Ala
	50					55					60				
Leu	Glu	Thr	Ser	Leu	Ser	Lys	Glu	Leu	Val	Ala	Ser	Gly	Met	Gly	Trp
65					70					75					80
Ala	Ala	Phe	Asn	Leu	Ser	Asn	Val	Thr	Gly	Asn	Ser	Arg	Ile	Leu	Cys
			85						90					95	
Ser	Val	Tyr	Cys	Asn	Gly	Ser	Gln	Ile	Thr	Gly	Ser	Ser	Asn	Ile	Thr
			100					105					110		
Val	Tyr	Gly	Leu	Pro	Glu	Arg	Val	Glu	Leu	Ala	Pro	Leu	Pro	Pro	Trp
		115					120					125			
Gln	Pro	Val	Gly	Gln	Asn	Phe	Thr	Leu	Arg	Cys	Gln	Val	Glu	Gly	Gly
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Val	Leu	Ala	Ser	Arg	Asp	Asp	His	Gly	Ala	Pro	Phe	Ser	Cys	Arg	Thr
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Leu	Val	Ala	Pro	Arg	Phe	Leu	Glu	Val	Glu	Thr	Ser	Trp	Pro	Val	Asp
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Cys	Thr	Leu	Asp	Gly	Leu	Phe	Pro	Ala	Ser	Glu	Ala	Gln	Val	Tyr	Leu
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Ala	Leu	Gly	Asp	Gln	Met	Leu	Asn	Ala	Thr	Val	Met	Asn	His	Gly	Asp
		260						265					270		
Thr	Leu	Thr	Ala	Thr	Ala	Thr	Ala	Thr	Ala	Arg	Ala	Asp	Gln	Glu	Gly
		275					280					285			
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<210> 116
 <211> 2040
 <212> DNA
 <213> Homo sapiens

<400> 116
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 <212> PRT
 <213> Homo sapiens

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 35 40 45
 Arg Arg Pro Lys Leu Gln Leu Ser Val Tyr Thr Thr Thr Arg Ser His
 50 55 60

Leu	Gly	Ala	Glu	Asn	Asn	Ile	Asp	Leu	Val	Leu	Asn	Val	Glu	Asp	Phe	
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Lys	Thr	Arg	Asn	Asn	Gly	Thr	Leu	Tyr	Ala	Tyr	Ile	Phe	Leu	His	His	
			100					105					110			
Ala	Gly	Val	Leu	Pro	Trp	His	Asp	Gly	Lys	Gln	Val	His	Leu	Val	Ser	
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Thr	Gly	Glu	Ser	Asp	Thr	Gln	Gln	Ile	Glu	Ala	Glu	Lys	Lys	Pro	Thr	
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Ser	Ala	Leu	Asp	Glu	Pro	Val	Ser	His	Trp	Arg	Pro	Arg	Leu	Ala	Leu	
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Asp	Val	His	Arg	Tyr	Met	Lys	Met	Ile	Gln	Leu	Gly	Lys	Thr	Val	His	
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Tyr	Leu	Pro	Ile	Leu	Phe	Ile	Asp	Gln	Leu	Ser	Asn	Arg	Val	Lys	Asp	
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Asp	Ala	Val	Tyr	Ser	Leu	Gln	Gln	Phe	Gly	Phe	Ser	Glu	Lys	Asp	Ala	
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Asp	Glu	Val	Lys	Gly	Ile	Phe	Val	Asp	Thr	Asn	Leu	Tyr	Phe	Leu	Ala	
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Phe	Lys	Asn	Asp	Ile	Ser	Phe	Trp	Lys	Lys	Lys	Lys	Ser	Met	Ile	Gly	
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				325					330					335		
Phe	Leu	Phe	Leu	Leu	Asp	Glu	Gln	Thr	Ser	Leu	Leu	Val	Leu	Val	Pro	
			340					345					350			
Ala	Gly	Val	Gly	Ala	Ala	Ile	Glu	Leu	Trp	Lys	Val	Lys	Lys	Ala	Leu	
		355					360					365				
Lys	Met	Thr	Ile	Phe	Trp	Arg	Gly	Leu	Met	Pro	Glu	Phe	Gln	Phe	Gly	
	370					375					380					

Thr Tyr Ser Glu Ser Glu Arg Lys Thr Glu Glu Tyr Asp Thr Gln Ala
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 Met Lys Tyr Leu Ser Tyr Leu Leu Tyr Pro Leu Cys Val Gly Gly Ala
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 Ile Asn Ser Phe Val Asn Gly Val Tyr Ala Phe Gly Phe Leu Phe Met
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 Leu Pro Gln Leu Phe Val Asn Tyr Lys Leu Lys Ser Val Ala His Leu
 450 455 460
 Pro Trp Lys Ala Phe Thr Tyr Lys Ala Phe Asn Thr Phe Ile Asp Asp
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 Val Phe Ala Phe Ile Ile Thr Met Pro Thr Ser His Arg Leu Ala Cys
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<210> 119
<211> 923
<212> PRT
<213> Homo sapiens

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Leu Tyr Ile Arg Val Val Asp Lys Val Glu Ile Gly Lys Thr Val Lys
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Thr	Leu	Val	Ala	Leu	Asp	Glu	Ala	Leu	Asp	Asn	Tyr	Thr	Ile	Thr	Phe	65	70	75
Leu	Ile	Arg	Gly	Val	Ala	Ile	Gly	Gln	Thr	Ser	Leu	Thr	Ala	Ser	Val	85	90	95
Thr	Asn	Lys	Ala	Gly	Gln	Arg	Ile	Asn	Ser	Ala	Pro	Gln	Gln	Ile	Glu	100	105	110
Val	Phe	Pro	Pro	Phe	Arg	Leu	Met	Pro	Arg	Lys	Val	Thr	Leu	Leu	Ile	115	120	125
Gly	Ala	Thr	Met	Gln	Val	Thr	Ser	Glu	Gly	Gly	Pro	Gln	Pro	Gln	Ser	130	135	140
Asn	Ile	Leu	Phe	Ser	Ile	Ser	Asn	Glu	Ser	Val	Ala	Leu	Val	Ser	Ala	145	150	155
Ala	Gly	Leu	Val	Gln	Gly	Leu	Ala	Ile	Gly	Asn	Gly	Thr	Val	Ser	Gly	165	170	175
Leu	Val	Gln	Ala	Val	Asp	Ala	Glu	Thr	Gly	Lys	Val	Val	Ile	Ile	Ser	180	185	190
Gln	Asp	Leu	Val	Gln	Val	Glu	Val	Leu	Leu	Leu	Arg	Ala	Val	Arg	Ile	195	200	205
Arg	Ala	Pro	Ile	Met	Arg	Met	Arg	Thr	Gly	Thr	Gln	Met	Pro	Ile	Tyr	210	215	220
Val	Thr	Gly	Ile	Thr	Asn	His	Gln	Asn	Pro	Phe	Ser	Phe	Gly	Asn	Ala	225	230	235
Val	Pro	Gly	Leu	Thr	Phe	His	Trp	Ser	Val	Thr	Lys	Arg	Asp	Val	Leu	245	250	255
Asp	Leu	Arg	Gly	Arg	His	His	Glu	Ala	Ser	Ile	Arg	Leu	Pro	Ser	Gln	260	265	270
Tyr	Asn	Phe	Ala	Met	Asn	Val	Leu	Gly	Arg	Val	Lys	Gly	Arg	Thr	Gly	275	280	285
Leu	Arg	Val	Val	Val	Lys	Ala	Val	Asp	Pro	Thr	Ser	Gly	Gln	Leu	Tyr	290	295	300
Gly	Leu	Ala	Arg	Glu	Leu	Ser	Asp	Glu	Ile	Gln	Val	Gln	Val	Phe	Glu	305	310	315
Lys	Leu	Gln	Leu	Leu	Asn	Pro	Glu	Ile	Glu	Ala	Glu	Gln	Ile	Leu	Met	325	330	335
Ser	Pro	Asn	Ser	Tyr	Ile	Lys	Leu	Gln	Thr	Asn	Arg	Asp	Gly	Ala	Ala	340	345	350

Ser Leu Ser Tyr Arg Val Leu Asp Gly Pro Glu Lys Val Pro Val Val
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 His Val Asp Glu Lys Gly Phe Leu Ala Ser Gly Ser Met Ile Gly Thr
 370 375 380
 Ser Thr Ile Glu Val Ile Ala Gln Glu Pro Phe Gly Ala Asn Gln Thr
 385 390 395 400
 Ile Ile Val Ala Val Lys Val Ser Pro Val Ser Tyr Leu Arg Val Ser
 405 410 415
 Met Ser Pro Val Leu His Thr Gln Asn Lys Glu Ala Leu Val Ala Val
 420 425 430
 Pro Leu Gly Met Thr Val Thr Phe Thr Val His Phe His Asp Asn Ser
 435 440 445
 Gly Asp Val Phe His Ala His Ser Ser Val Leu Asn Phe Ala Thr Asn
 450 455 460
 Arg Asp Asp Phe Val Gln Ile Gly Lys Gly Pro Thr Asn Asn Thr Cys
 465 470 475 480
 Val Val Arg Thr Val Ser Val Gly Leu Thr Leu Leu Arg Val Trp Asp
 485 490 495
 Ala Glu His Pro Gly Leu Ser Asp Phe Met Pro Leu Pro Val Leu Gln
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 Ala Ile Ser Pro Glu Leu Ser Gly Ala Met Val Val Gly Asp Val Leu
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 Cys Leu Ala Thr Val Leu Thr Ser Leu Glu Gly Leu Ser Gly Thr Trp
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 Gly His Leu Arg Thr Tyr Lys Glu Val Val Val Ser Val Pro Gln Arg
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 Ile Met Ala Arg His Leu His Pro Ile Gln Thr Ser Phe Gln Glu Ala
 595 600 605
 Thr Ala Ser Lys Val Ile Val Ala Val Gly Asp Arg Ser Ser Asn Leu
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 Arg Gly Glu Cys Thr Pro Thr Gln Arg Glu Val Ile Gln Ala Leu His
 625 630 635 640
 Pro Glu Thr Leu Ile Ser Cys Gln Ser Gln Phe Lys Pro Ala Val Phe
 645 650 655
 Asp Phe Pro Ser Gln Asp Val Phe Thr Val Glu Pro Gln Phe Asp Thr
 660 665 670
 Ala Leu Gly Gln Tyr Phe Cys Ser Ile Thr Met His Arg Leu Thr Asp

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Lys	Gln	Arg	Lys	His	Leu	Ser	Met	Lys	Lys	Thr	Ala	Leu	Val	Val	Ser
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Ala	Ser	Leu	Ser	Ser	Ser	His	Phe	Ser	Thr	Glu	Gln	Val	Gly	Ala	Glu
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Val	Pro	Phe	Ser	Pro	Gly	Leu	Phe	Ala	Asp	Gln	Ala	Glu	Ile	Leu	Leu
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Ser	Asn	His	Tyr	Thr	Ser	Ser	Glu	Ile	Arg	Val	Phe	Gly	Ala	Pro	Glu
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Val	Leu	Glu	Asn	Leu	Glu	Val	Lys	Ser	Gly	Ser	Pro	Ala	Val	Leu	Ala
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Phe	Ala	Lys	Glu	Lys	Ser	Phe	Gly	Trp	Pro	Ser	Phe	Ile	Thr	Tyr	Thr
	770					775					780				
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Thr	Leu	Thr	Phe	Ser	Ser	Pro	Val	Thr	Asn	Gln	Ala	Ile	Ala	Ile	Pro
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Val	Thr	Val	Ala	Phe	Val	Met	Asp	Arg	Arg	Gly	Pro	Gly	Pro	Tyr	Gly
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	850					855					860				
His	Thr	Val	Cys	Thr	Pro	Arg	Asp	Leu	Ala	Val	Pro	Ala	Ala	Leu	Thr
865					870					875					880
Pro	Arg	Ala	Ser	Pro	Gly	His	Ser	Pro	His	Tyr	Phe	Ala	Ala	Ser	Ser
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Pro	Thr	Ser	Pro	Asn	Ala	Leu	Pro	Pro	Ala	Arg	Lys	Ala	Ser	Pro	Pro
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<210> 120
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 Met Thr Ser Gly Gly Asp Ala Ala Met Phe Arg Asp Gly Lys Glu Pro
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Cys	Phe	Thr	Gln	Lys	Leu	Val	Glu	Lys	Leu	Tyr	Ser	Gly	Met	Phe	Ser	50	55	60
Ala	Asp	Pro	Arg	His	Ile	Leu	Leu	Phe	Ile	Leu	Glu	His	Ile	Met	Val	65	70	75
Val	Ile	Glu	Thr	Ala	Ser	Ser	Gln	Arg	Asp	Thr	Val	Leu	Ser	Thr	Leu	85	90	95
Tyr	Ser	Ser	Leu	Asn	Lys	Val	Ile	Leu	Tyr	Cys	Leu	Ser	Lys	Pro	Gln	100	105	110
Gln	Ser	Leu	Ser	Glu	Cys	Leu	Gly	Leu	Leu	Ser	Ile	Leu	Gly	Phe	Leu	115	120	125
Gln	Glu	His	Trp	Asp	Val	Val	Phe	Ala	Thr	Tyr	Asn	Ser	Asn	Ile	Ser	130	135	140
Phe	Leu	Leu	Cys	Leu	Met	His	Cys	Leu	Leu	Leu	Leu	Asn	Glu	Arg	Ser	145	150	155
Tyr	Pro	Glu	Gly	Phe	Gly	Leu	Glu	Pro	Lys	Pro	Arg	Met	Ser	Thr	Tyr	165	170	175
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Asp	Leu	Pro	Ser	Leu	Ser	Asp	Val	Gln	His	Asn	Ile	Gln	Lys	Thr	Val	195	200	205
Gln	Thr	Leu	Trp	Gln	Gln	Leu	Val	Ala	Gln	Arg	Gln	Gln	Thr	Leu	Glu	210	215	220
Asp	Ala	Phe	Lys	Ile	Asp	Leu	Ser	Val	Lys	Pro	Gly	Glu	Arg	Glu	Val	225	230	235
Lys	Ile	Glu	Glu	Val	Thr	Pro	Leu	Trp	Glu	Glu	Thr	Met	Leu	Lys	Ala	245	250	255
Trp	Gln	His	Tyr	Leu	Ala	Ser	Glu	Lys	Lys	Ser	Leu	Ala	Ser	Arg	Ser	260	265	270
Asn	Val	Ala	His	His	Ser	Lys	Val	Thr	Leu	Trp	Ser	Gly	Ser	Leu	Ser	275	280	285
Ser	Ala	Met	Lys	Leu	Met	Pro	Gly	Arg	Gln	Ala	Lys	Asp	Pro	Glu	Cys	290	295	300
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Gln	Glu	Leu	Tyr	Ala	Ser	Leu	Tyr	Lys	Asp	His	Val	Gln	Arg	Arg	Lys	325	330	335
Cys	Gly	Asn	Ile	Lys	Ala	Ala	Asn	Ala	Trp	Ala	Arg	Ile	Gln	Glu	Gln	340	345	350

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				485					490					495			
Phe	Gly	His	Gln	His	Phe	Tyr	Ile	Cys	Glu	Asn	Phe	Thr	Leu	Ser	Pro		
			500					505					510				
Thr	Gly	Asp	Val	Tyr	Cys	Thr	Arg	His	Cys	Leu	Ser	Asn	Ile	Ser	Asp		
		515					520					525					
Pro	Phe	Ile	Phe	Asn	Leu	Cys	Ser	Lys	Asp	Arg	Ser	Thr	Asp	His	Tyr		
	530					535					540						
Ser	Cys	Gln	Cys	His	Ser	Tyr	Ala	Asp	Met	Arg	Glu	Leu	Arg	Gln	Ala		
545					550					555					560		
Arg	Phe	Leu	Leu	Gln	Asp	Ile	Ala	Leu	Glu	Ile	Phe	Phe	His	Asn	Gly		
				565					570					575			
Tyr	Ser	Lys	Phe	Leu	Val	Phe	Tyr	Asn	Asn	Asp	Arg	Ser	Lys	Ala	Phe		
			580					585					590				
Lys	Ser	Phe	Cys	Ser	Phe	Gln	Pro	Ser	Leu	Lys	Gly	Lys	Ala	Thr	Ser		
		595					600					605					
Glu	Asp	Thr	Leu	Asn	Leu	Arg	Arg	Tyr	Pro	Gly	Ser	Asp	Arg	Ile	Met		
	610					615						620					
Leu	Gln	Lys	Trp	Gln	Lys	Arg	Asp	Ile	Ser	Asn	Phe	Glu	Tyr	Leu	Met		
625					630					635					640		
Tyr	Leu	Asn	Thr	Ala	Ala	Gly	Arg	Thr	Cys	Asn	Asp	Tyr	Met	Gln	Tyr		
				645				650						655			
Pro	Val	Phe	Pro	Trp	Val	Leu	Ala	Asp	Tyr	Thr	Ser	Glu	Thr	Leu	Asn		
			660					665					670				

Leu Ala Asn Pro Lys Ile Phe Arg Asp Leu Ser Lys Pro Met Gly Ala
 675 680 685
 Gln Thr Lys Glu Arg Lys Leu Lys Phe Ile Gln Arg Phe Lys Glu Val
 690 695 700
 Glu Lys Thr Glu Gly Asp Met Thr Val Gln Cys His Tyr Tyr Thr His
 705 710 715 720
 Tyr Ser Ser Ala Ile Ile Val Ala Ser Tyr Leu Val Arg Met Pro Pro
 725 730 735
 Phe Thr Gln Ala Phe Cys Ala Leu Gln Gly Gly Ser Phe Asp Val Ala
 740 745 750
 Asp Arg Met Phe His Ser Val Lys Ser Thr Trp Glu Ser Ala Ser Arg
 755 760 765
 Glu Asn Met Ser Asp Val Arg Glu Leu Thr Pro Glu Phe Phe Tyr Leu
 770 775 780
 Pro Glu Phe Leu Thr Asn Cys Asn Gly Val Glu Phe Gly Cys Met Gln
 785 790 795 800
 Asp Gly Thr Val Leu Gly Asp Val Gln Leu Pro Pro Trp Ala Asp Gly
 805 810 815
 Asp Pro Arg Lys Phe Ile Ser Leu His Arg Lys Ala Leu Glu Ser Asp
 820 825 830
 Phe Val Ser Ala Asn Leu His His Trp Ile Asp Leu Ile Phe Gly Tyr
 835 840 845
 Lys Gln Gln Gly Pro Ala Ala Val Asp Ala Val Asn Ile Phe His Pro
 850 855 860
 Tyr Phe Tyr Gly Asp Arg Met Asp Leu Ser Ser Ile Thr Asp Pro Leu
 865 870 875 880
 Ile Lys Ser Thr Ile Leu Gly Phe Val Ser Asn Phe Gly Gln Val Pro
 885 890 895
 Lys Gln Leu Phe Thr Lys Pro His Pro Ala Arg Thr Ala Ala Gly Lys
 900 905 910
 Pro Leu Pro Gly Lys Asp Val Ser Thr Pro Val Ser Leu Pro Gly His
 915 920 925
 Pro Gln Pro Phe Phe Tyr Ser Leu Gln Ser Leu Arg Pro Ser Gln Val
 930 935 940
 Thr Val Lys Asp Met Tyr Leu Phe Ser Leu Gly Ser Glu Ser Pro Lys
 945 950 955 960
 Gly Ala Ile Gly His Ile Val Ser Thr Glu Lys Thr Ile Leu Ala Val
 965 970 975
 Glu Arg Asn Lys Val Leu Leu Pro Pro Leu Trp Asn Arg Thr Phe Ser
 980 985 990

Trp Gly Phe Asp Asp Phe Ser Cys Cys Leu Gly Ser Tyr Gly Ser Asp
 995 1000 1005
 Lys Val Leu Met Thr Phe Glu Asn Leu Ala Ala Trp Gly Arg Cys Leu
 1010 1015 1020
 Cys Ala Val Cys Pro Ser Pro Thr Thr Ile Val Thr Ser Gly Thr Ser
 1025 1030 1035 1040
 Thr Val Val Cys Val Trp Glu Leu Ser Met Thr Lys Gly Arg Pro Arg
 1045 1050 1055
 Gly Leu Arg Leu Arg Gln Ala Leu Tyr Gly His Thr Gln Ala Val Thr
 1060 1065 1070
 Cys Leu Ala Ala Ser Val Thr Phe Ser Leu Leu Val Ser Gly Ser Gln
 1075 1080 1085
 Asp Cys Thr Cys Ile Leu Trp Asp Leu Asp His Leu Thr His Val Thr
 1090 1095 1100
 Arg Leu Pro Ala His Arg Glu Gly Ile Ser Ala Ile Thr Ile Ser Asp
 1105 1110 1115 1120
 Val Ser Gly Thr Ile Val Ser Cys Ala Gly Ala His Leu Ser Leu Trp
 1125 1130 1135
 Asn Val Asn Gly Gln Pro Leu Ala Ser Ile Thr Thr Ala Trp Gly Pro
 1140 1145 1150
 Glu Gly Ala Ile Thr Cys Cys Cys Leu Met Glu Gly Pro Ala Trp Asp
 1155 1160 1165
 Thr Ser Gln Ile Ile Ile Thr Gly Ser Gln Asp Gly Met Val Arg Val
 1170 1175 1180
 Trp Lys Thr Glu Asp Val Lys Met Ser Val Pro Gly Arg Pro Ala Gly
 1185 1190 1195 1200
 Glu Glu Pro Leu Ala Gln Pro Pro Ser Pro Arg Gly His Lys Trp Glu
 1205 1210 1215
 Lys Asn Leu Ala Leu Ser Arg Glu Leu Asp Val Ser Ile Ala Leu Thr
 1220 1225 1230
 Gly Lys Pro Ser Lys Thr Ser Pro Ala Val Thr Ala Leu Ala Val Ser
 1235 1240 1245
 Arg Asn His Thr Lys Leu Leu Val Gly Asp Glu Arg Gly Arg Ile Phe
 1250 1255 1260
 Cys Trp Ser Ala Asp Gly
 1265 1270

<210> 121
 <211> 647
 <212> PRT
 <213> Homo sapiens

<400> 121

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			20					25					30		
Tyr	Pro	Val	Phe	Pro	Trp	Val	Leu	Ala	Asp	Tyr	Thr	Ser	Glu	Thr	Leu
		35					40					45			
Asn	Leu	Ala	Asn	Pro	Lys	Ile	Phe	Arg	Asp	Leu	Ser	Lys	Pro	Met	Gly
	50					55					60				
Ala	Gln	Thr	Lys	Glu	Arg	Lys	Leu	Lys	Phe	Ile	Gln	Arg	Phe	Lys	Glu
65					70					75					80
Val	Glu	Lys	Thr	Glu	Gly	Asp	Met	Thr	Val	Gln	Cys	His	Tyr	Tyr	Thr
				85					90					95	
His	Tyr	Ser	Ser	Ala	Ile	Ile	Val	Ala	Ser	Tyr	Leu	Val	Arg	Met	Pro
			100					105					110		
Pro	Phe	Thr	Gln	Ala	Phe	Cys	Ala	Leu	Gln	Gly	Gly	Ser	Phe	Asp	Val
		115					120					125			
Ala	Asp	Arg	Met	Phe	His	Ser	Val	Lys	Ser	Thr	Trp	Glu	Ser	Ala	Ser
	130					135					140				
Arg	Glu	Asn	Met	Ser	Asp	Val	Arg	Glu	Leu	Thr	Pro	Glu	Phe	Phe	Tyr
145					150					155					160
Leu	Pro	Glu	Phe	Leu	Thr	Asn	Cys	Asn	Gly	Val	Glu	Phe	Gly	Cys	Met
				165					170					175	
Gln	Asp	Gly	Thr	Val	Leu	Gly	Asp	Val	Gln	Leu	Pro	Pro	Trp	Ala	Asp
			180					185					190		
Gly	Asp	Pro	Arg	Lys	Phe	Ile	Ser	Leu	His	Arg	Lys	Ala	Leu	Glu	Ser
		195					200					205			
Asp	Phe	Val	Ser	Ala	Asn	Leu	His	His	Trp	Ile	Asp	Leu	Ile	Phe	Gly
	210					215					220				
Tyr	Lys	Gln	Gln	Gly	Pro	Ala	Ala	Val	Asp	Ala	Val	Asn	Ile	Phe	His
225					230					235					240
Pro	Tyr	Phe	Tyr	Gly	Asp	Arg	Met	Asp	Leu	Ser	Ser	Ile	Thr	Asp	Pro
				245					250					255	
Leu	Ile	Lys	Ser	Thr	Ile	Leu	Gly	Phe	Val	Ser	Asn	Phe	Gly	Gln	Val
			260					265					270		
Pro	Lys	Gln	Leu	Phe	Thr	Lys	Pro	His	Pro	Ala	Arg	Thr	Ala	Ala	Gly
		275					280					285			
Lys	Pro	Leu	Pro	Gly	Lys	Asp	Val	Ser	Thr	Pro	Val	Ser	Leu	Pro	Gly
	290					295					300				
His	Pro	Gln	Pro	Phe	Phe	Tyr	Ser	Leu	Gln	Ser	Leu	Arg	Pro	Ser	Gln
305					310					315					320

Val Thr Val Lys Asp Met Tyr Leu Phe Ser Leu Gly Ser Glu Ser Pro
325 330 335
Lys Gly Ala Ile Gly His Ile Val Ser Thr Glu Lys Thr Ile Leu Ala
340 345 350
Val Glu Arg Asn Lys Val Leu Leu Pro Pro Leu Trp Asn Arg Thr Phe
355 360 365
Ser Trp Gly Phe Asp Asp Phe Ser Cys Cys Leu Gly Ser Tyr Gly Ser
370 375 380
Asp Lys Val Leu Met Thr Phe Glu Asn Leu Ala Ala Trp Gly Arg Cys
385 390 395 400
Leu Cys Ala Val Cys Pro Ser Pro Thr Thr Ile Val Thr Ser Gly Thr
405 410 415
Ser Thr Val Val Cys Val Trp Glu Leu Ser Met Thr Lys Gly Arg Pro
420 425 430
Arg Gly Leu Arg Leu Arg Gln Ala Leu Tyr Gly His Thr Gln Ala Val
435 440 445
Thr Cys Leu Ala Ala Ser Val Thr Phe Ser Leu Leu Val Ser Gly Ser
450 455 460
Gln Asp Cys Thr Cys Ile Leu Trp Asp Leu Asp His Leu Thr His Val
465 470 475 480
Thr Arg Leu Pro Ala His Arg Glu Gly Ile Ser Ala Ile Thr Ile Ser
485 490 495
Asp Val Ser Gly Thr Ile Val Ser Cys Ala Gly Ala His Leu Ser Leu
500 505 510
Trp Asn Val Asn Gly Gln Pro Leu Ala Ser Ile Thr Thr Ala Trp Gly
515 520 525
Pro Glu Gly Ala Ile Thr Cys Cys Cys Leu Met Glu Gly Pro Ala Trp
530 535 540
Asp Thr Ser Gln Ile Ile Ile Thr Gly Ser Gln Asp Gly Met Val Arg
545 550 555 560
Val Trp Lys Thr Glu Asp Val Lys Met Ser Val Pro Gly Arg Pro Ala
565 570 575
Gly Glu Glu Pro Leu Ala Gln Pro Pro Ser Pro Arg Gly His Lys Trp
580 585 590
Glu Lys Asn Leu Ala Leu Ser Arg Glu Leu Asp Val Ser Ile Ala Leu
595 600 605
Thr Gly Lys Pro Ser Lys Thr Ser Pro Ala Val Thr Ala Leu Ala Val
610 615 620

Ser Arg Asn His Thr Lys Leu Leu Val Gly Asp Glu Arg Gly Arg Ile
 625 630 635 640

Phe Cys Trp Ser Ala Asp Gly
 645

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 <211> 32
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence:PCR
 amplification primer PDM-797

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<210> 123
 <211> 35
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence:PCR
 amplification primer PDM-799

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<210> 124
 <211> 980
 <212> DNA
 <213> Homo sapiens

<400> 124
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 tgcttctatc taaggggacc tacttctctc gggaatctca atacttgga caagaacctc 180
 ctagacggac cctttggcat aatgaattgg accaactgta ggttccagga ctagagagcc 240
 agcaatgcct ccatgaacaa tctcacccaa ttactctgct caggaaacga ggtaactgat 300
 ggacagccga ggcagcccct taggcggctt aggcctcccc tgtggagcat ccctgaggcg 360
 gactccggcc agcccagatg atgcgatcca aagagcactc ccgggtagga aattgccccg 420
 gtggaatgcc tcaccagagc agcgtgtagc agttccctgt ggaggattaa cacagtggct 480
 gaacaccggg aaggaactgg cacttggagt ccggacatct gaaacttgta gactgggagc 540
 tgtacatgga tgggagcagc ttcaccaacc cctgcaaagt gactctgaag aagacgacaa 600
 gccctgctcc agtcacaccc ggaagctgac tgggtccagc acagctgaag catgaggaaa 660
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